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# Monthly Energy Review

October 1991

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# *Monthly Energy Review*

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# Monthly Energy Review

## October 1991

**Energy Information Administration**
Office of Energy Markets and
End Use
U.S. Department of Energy
Washington, DC 20585

# Contacts

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| | | |
|---|---|---|
| **Feature Articles, Highlights, and Special Summaries** | Barbara T. Fichman | 202-586-5737 |
| **Section 1. Energy Overview** | | |
| Tables 1.1-1.5 | Alethea K. Jennings | 202-586-9160 |
| Tables 1.6-1.12 | Dianne R. Dunn | 202-586-2792 |
| **Section 2. Energy Consumption** | Alethea K. Jennings | 202-586-9160 |
| **Section 3. Petroleum** | Christine D. Gray | 202-586-8995 |
| **Section 4. Natural Gas** | Donna Dunston | 202-586-6135 |
| **Section 5. Oil and Gas Resource Development** | Herbert T. Black | 202-586-4055 |
| **Section 6. Coal** | Wayne Watson | 202-254-5389 |
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| Nuclear Electricity Gross Generation | Kenneth C. Wade | 202-254-5514 |

Additional information on all energy statistics available from the Energy Information Administration may be obtained from the National Energy Information Center, 202-586-8800 (TDD, 202-586-1181).

• Released for printing: October 25, 1991

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# List of Feature Articles

Feature articles on energy-related subjects are occasionally included in this publication. The following is a complete list of all the feature articles that have been published to date.

# List of Highlights

"Highlights"—special features that summarize the most important information presented in selected Energy Information Administration reports—are occasionally included in this publication. The following is a complete list of all the reports that have been summarized to date.

# Section 1. Energy Overview

The United States produced 0.2 percent less energy during the first 7 months of 1991 than during the same period in 1990, and U.S. consumption was down 0.5 percent[1]. Net imports of all energy were 16.6 percent lower than during the first 7 months of 1990.

Energy production during July 1991 totaled 5.7 quadrillion Btu, a 3.3-percent increase compared with the level of production during July 1990. Petroleum production increased 2.9 percent, coal production rose 2.5 percent, and natural gas production was up 1.0 percent. All other forms of energy production combined were up 9.6 percent from the level of production during July 1990.

Energy consumption during July 1991 totaled 6.8 quadrillion Btu, 0.9 percent above the level of consumption during July 1990. Natural gas consumption increased 0.7 percent, petroleum consumption decreased 1.0 percent, and coal consumption was down 0.5 percent. Consumption of all other forms of energy combined increased 10.1 percent compared with the level 1 year earlier.

Net imports of energy during July 1991 totaled 1.1 quadrillion Btu, 20.7 percent below the level of net imports 1 year earlier. Net imports of petroleum decreased 19.1 percent, and net imports of natural gas were up 9.6 percent. Net exports of coal increased 8.5 percent compared with the level in July 1990.

## Table 1.1 Energy Summary for July 1991

(Quadrillion Btu)

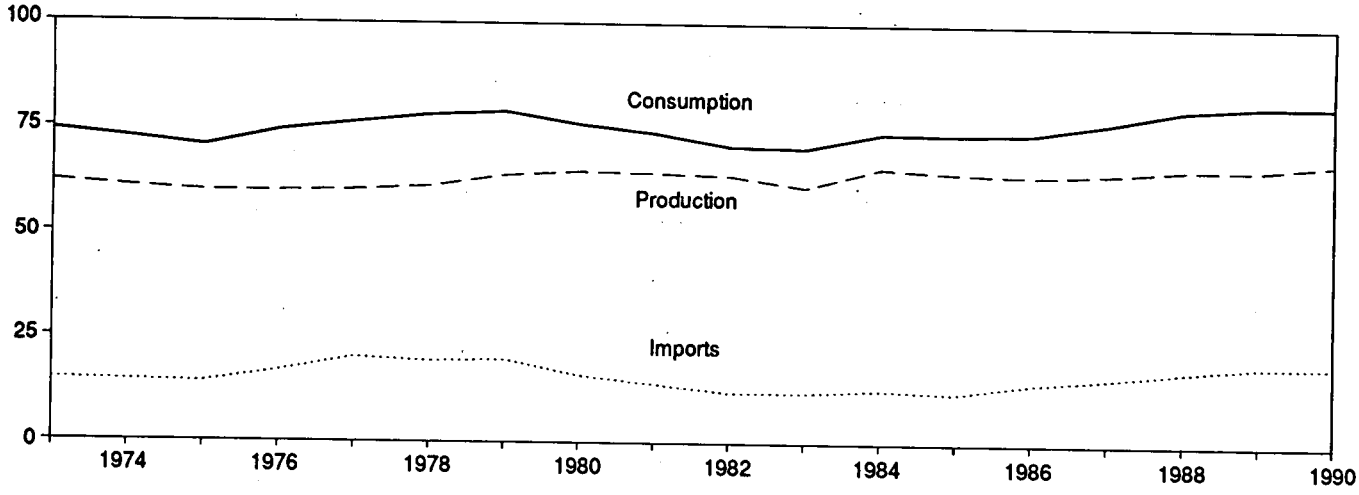
| | July | | | Cumulative January Through July | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1991 | 1990 | Percent Change[a] | 1991 | 1991 Daily Rate | 1990 | 1990 Daily Rate | Percent Change[a] |
| **Production[b]** | **5.697** | **5.517** | **3.3** | **39.384** | **0.186** | **39.464** | **0.186** | **-0.2** |
| Coal | 1.785 | 1.742 | 2.5 | 12.612 | .059 | 13.059 | .062 | -3.4 |
| Natural Gas (Dry) | 1.484 | 1.469 | 1.0 | 10.555 | .050 | 10.580 | .050 | -.2 |
| Petroleum[c] | 1.508 | 1.466 | 2.9 | 10.446 | .049 | 10.267 | .048 | 1.7 |
| Other[d] | .921 | .840 | 9.6 | 5.771 | .027 | 5.558 | .026 | 3.8 |
| **Consumption[b]** | **6.835** | **6.776** | **.9** | **47.370** | **.223** | **47.601** | **.225** | **-.5** |
| Coal | 1.726 | 1.734 | -.5 | 10.886 | .051 | 10.868 | .051 | .2 |
| Natural Gas[e] | 1.331 | 1.322 | .7 | 11.758 | .055 | 11.680 | .055 | .7 |
| Petroleum | 2.837 | 2.866 | -1.0 | 18.872 | .089 | 19.527 | .092 | -3.4 |
| Other[f] | .941 | .855 | 10.1 | 5.855 | .028 | 5.526 | .026 | 6.0 |
| **Net Imports** | **1.119** | **1.412** | **-20.7** | **7.470** | **.035** | **8.958** | **.042** | **-16.6** |
| Coal[g] | -.256 | -.236 | 8.5 | -1.486 | -.007 | -1.513 | -.007 | -1.8 |
| Natural Gas | .126 | .115 | 9.6 | .887 | .004 | .803 | .004 | 10.4 |
| Petroleum[h] | 1.228 | 1.518 | -19.1 | 7.984 | .038 | 9.700 | .046 | -17.7 |
| Other[i] | .020 | .015 | 37.8 | .085 | (s) | -.032 | (s) | -364.2 |

[a] Based on daily rates prior to rounding.
[b] Production and consumption totals exclude wood, waste, geothermal, wind, photovoltaic, and solar thermal energy, except for small amounts used by electric utilities to generate electricity for distribution.
[c] Includes crude oil, lease condensate, and natural gas plant liquids.
[d] Other is hydroelectric and nuclear electric power, and electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy.
[e] Includes supplemental gaseous fuels.
[f] Other is hydroelectric and nuclear electric power; electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy; and net imports of electricity and coal coke.
[g] Minus sign indicates exports are greater than imports.
[h] Includes crude oil, lease condensate, petroleum products, pentanes plus, unfinished oils, gasoline blending components, and imports of crude oil for the Strategic Petroleum Reserve.
[i] Other is net imports of electricity and coal coke.
(s)=Less than +0.5 trillion Btu and greater than -0.5 trillion Btu.
Note: Totals may not equal sum of components due to independent rounding.
Sources: Tables 1.3, 1.4, and 1.5.

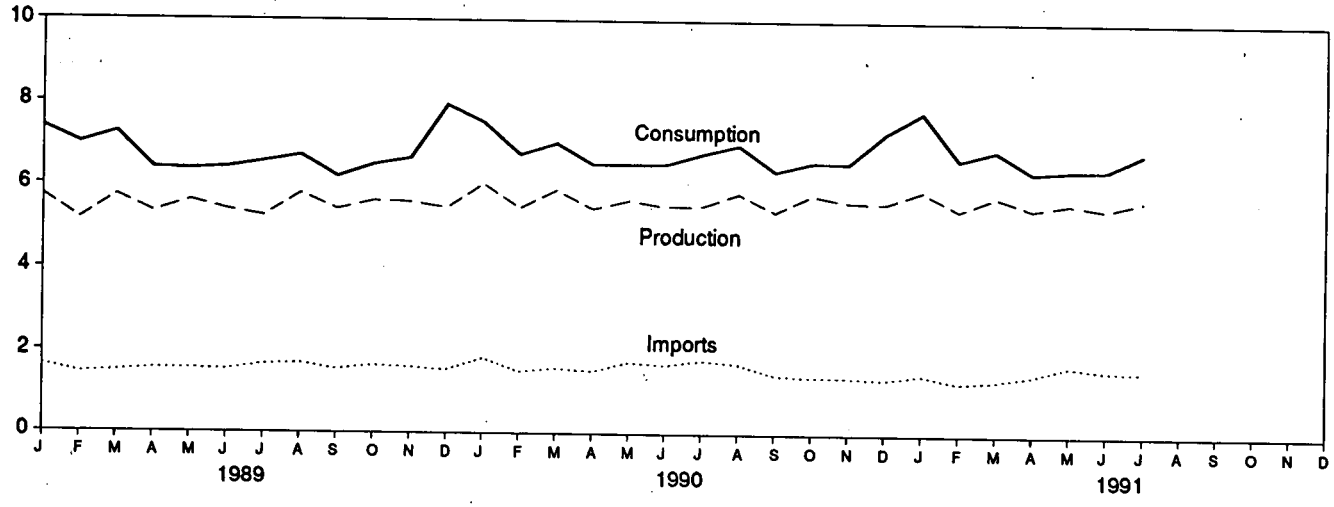
## Figure 1.1 Energy Overview

(Quadrillion Btu)

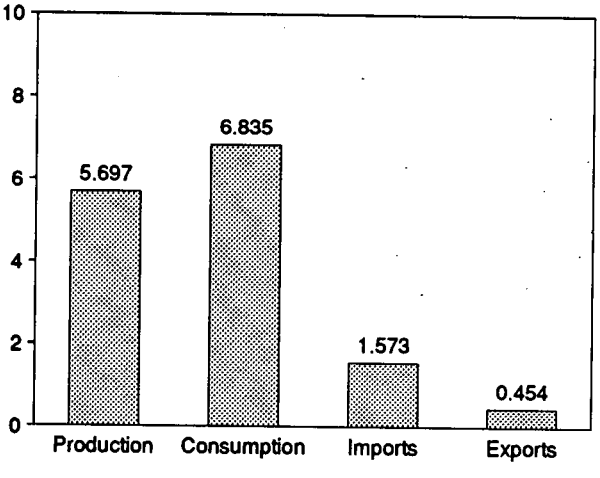
### Consumption, Production, and Imports, 1973-1990



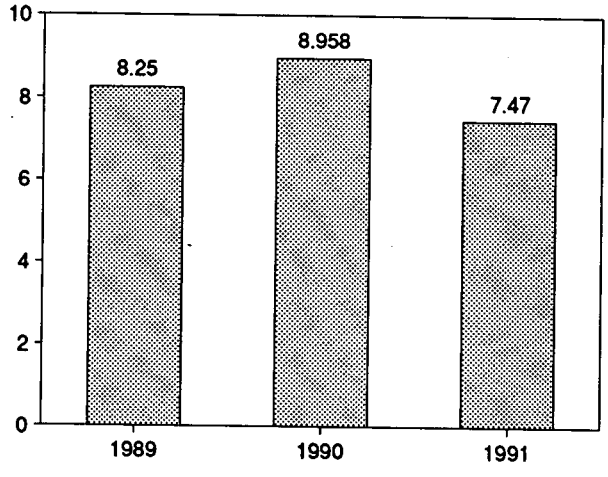

### Consumption, Production, and Imports, Monthly




### Overview, July 1991




### Net Imports, January-July




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 1.2.

# Table 1.2 Energy Overview

(Quadrillion Btu)

| | Production[a] | Consumption[a,b] | Imports | Exports | Net Imports |
|---|---|---|---|---|---|
| **1973 Total** | **62.060** | **74.282** | **14.731** | **2.051** | **12.680** |
| **1974 Total** | **60.835** | **72.543** | **14.413** | **2.223** | **12.190** |
| **1975 Total** | **59.860** | **70.546** | **14.111** | **2.359** | **11.752** |
| **1976 Total** | **59.892** | **74.362** | **16.837** | **2.188** | **14.648** |
| **1977 Total** | **60.219** | **76.288** | **20.090** | **2.071** | **18.019** |
| **1978 Total** | **61.103** | **78.089** | **19.254** | **1.931** | **17.323** |
| **1979 Total** | **63.801** | **78.898** | **19.616** | **2.870** | **16.746** |
| **1980 Total** | **64.761** | **75.955** | **15.971** | **3.723** | **12.247** |
| **1981 Total** | **64.421** | **73.990** | **13.975** | **4.329** | **9.646** |
| **1982 Total** | **63.898** | **70.848** | **12.092** | **4.633** | **7.460** |
| **1983 Total** | **61.215** | **70.524** | **12.027** | **3.717** | **8.310** |
| **1984 Total** | **65.847** | **74.101** | **12.763** | **3.804** | **8.959** |
| **1985 Total** | **64.765** | **73.945** | **12.098** | **4.231** | **7.868** |
| **1986 Total** | **64.225** | **74.237** | **14.430** | **4.055** | **10.376** |
| **1987 Total** | **64.823** | **76.844** | **15.755** | **3.852** | **11.903** |
| **1988 Total** | **66.005** | **80.195** | **17.561** | **4.415** | **13.146** |
| **1989** January | 5.731 | 7.391 | 1.642 | .319 | 1.323 |
| February | 5.164 | 6.995 | 1.452 | .337 | 1.116 |
| March | 5.732 | 7.265 | 1.494 | .404 | 1.090 |
| April | 5.331 | 6.386 | 1.558 | .405 | 1.152 |
| May | 5.614 | 6.363 | 1.556 | .420 | 1.136 |
| June | 5.395 | 6.409 | 1.535 | .440 | 1.095 |
| July | 5.247 | 6.556 | 1.665 | .327 | 1.338 |
| August | 5.789 | 6.710 | 1.697 | .408 | 1.288 |
| September | 5.410 | 6.191 | 1.550 | .389 | 1.161 |
| October | 5.613 | 6.488 | 1.649 | .419 | 1.230 |
| November | 5.590 | 6.644 | 1.605 | .460 | 1.145 |
| December | 5.449 | 7.946 | 1.543 | .435 | 1.108 |
| **Total** | **66.065** | **81.345** | **18.947** | **4.766** | **14.181** |
| **1990** January | R6.025 | R7.525 | 1.828 | .361 | 1.467 |
| February | 5.452 | R6.741 | 1.512 | .330 | 1.182 |
| March | R5.884 | R7.024 | 1.587 | .428 | 1.159 |
| April | R5.442 | R6.507 | 1.523 | .387 | 1.136 |
| May | R5.643 | R6.510 | 1.747 | .412 | 1.335 |
| June | 5.502 | R6.517 | 1.679 | .412 | 1.267 |
| July | 5.517 | R6.776 | 1.798 | .386 | 1.412 |
| August | 5.817 | R6.993 | 1.715 | .438 | 1.277 |
| September | 5.385 | R6.354 | 1.448 | .441 | 1.007 |
| October | 5.790 | R6.573 | 1.397 | .418 | .979 |
| November | R5.623 | R6.559 | 1.395 | .459 | .936 |
| December | 5.596 | 7.301 | 1.355 | .437 | .917 |
| **Total** | **R67.676** | **R81.382** | **18.983** | **4.909** | **14.073** |
| **1991** January | 5.895 | R7.807 | 1.464 | .396 | 1.067 |
| February | 5.441 | R6.652 | 1.281 | .463 | .819 |
| March | 5.771 | R6.888 | 1.336 | .395 | .941 |
| April | 5.479 | R6.348 | 1.468 | .324 | 1.144 |
| May | 5.617 | R6.415 | 1.700 | .485 | 1.216 |
| June | R5.486 | R6.425 | 1.590 | .425 | 1.165 |
| July | 5.697 | 6.835 | 1.573 | .454 | 1.119 |
| **7-Month Total** | **39.384** | **47.370** | **10.412** | **2.941** | **7.470** |
| **1990 7-Month Total** | **39.464** | **47.601** | **11.674** | **2.716** | **8.958** |
| **1989 7-Month Total** | **38.214** | **47.365** | **10.902** | **2.652** | **8.250** |

[a] Excludes wood, waste, geothermal, wind, photovoltaic, and solar thermal energy, except for small amounts used by electric utilities to generate electricity for distribution.

[b] The sum of domestic energy production and net imports of energy does not equal domestic energy consumption. The difference is attributed to stock changes; losses and gains in conversion, transportation, and distribution; the addition of blending compounds; shipments of anthracite to U.S. Armed Forces in Europe; and adjustments to account for discrepancies between reporting systems.

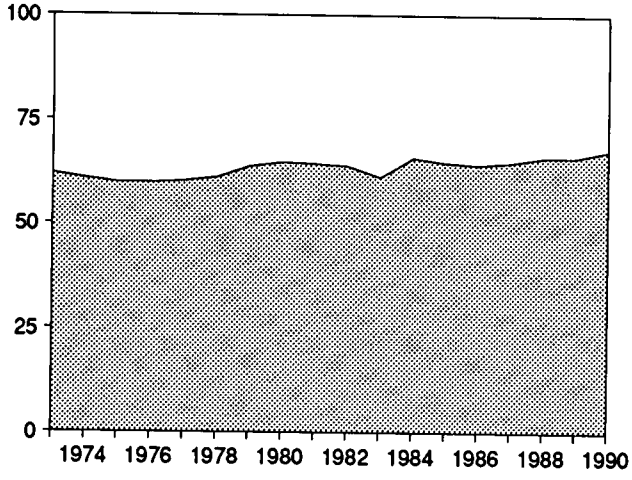
R=Revised data.

Notes: • For definitions, see Notes 1 through 4 at end of section. • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

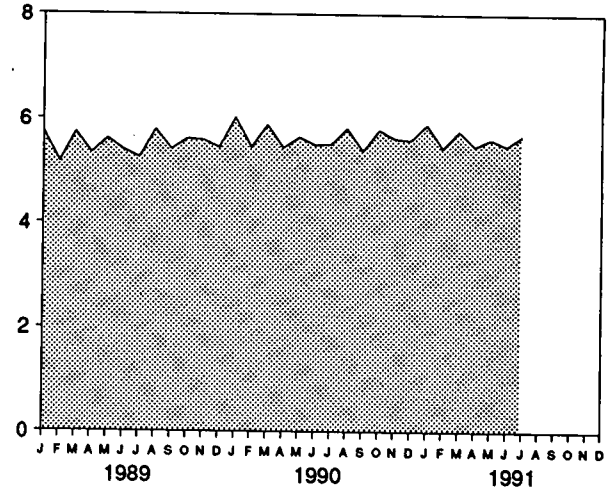
Sources: • **Production:** Table 1.3. • **Consumption:** Table 1.4. • **Imports and Exports:** Tables 3.1b, 4.2, 6.1, A3-A9, and Section 2, "Energy Consumption Notes and Sources," Notes 8 and 9. • **Net Imports:** Table 1.5.

## Figure 1.2 Energy Production
(Quadrillion Btu)

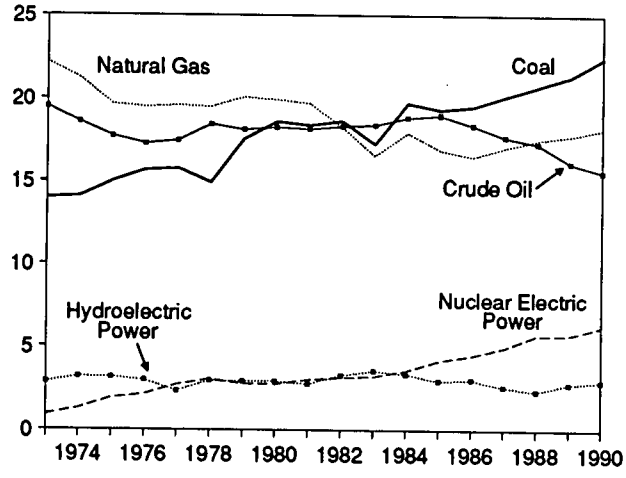
### Total Production, 1973-1990



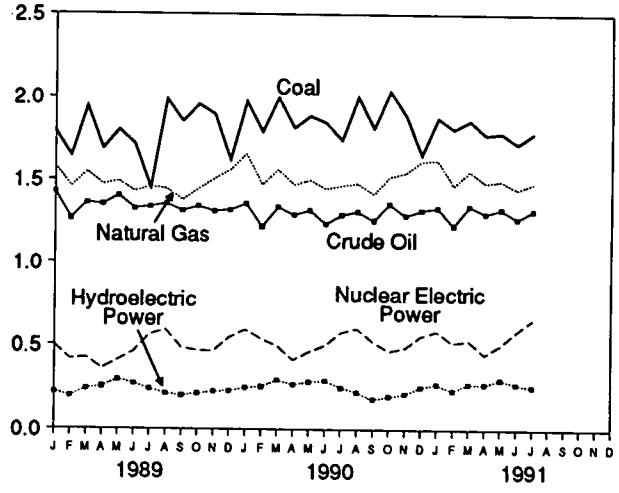

### Total Production, Monthly



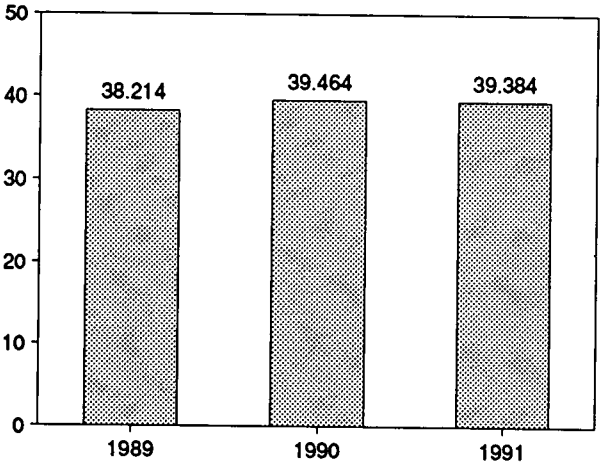

### Production by Major Sources, 1973-1990



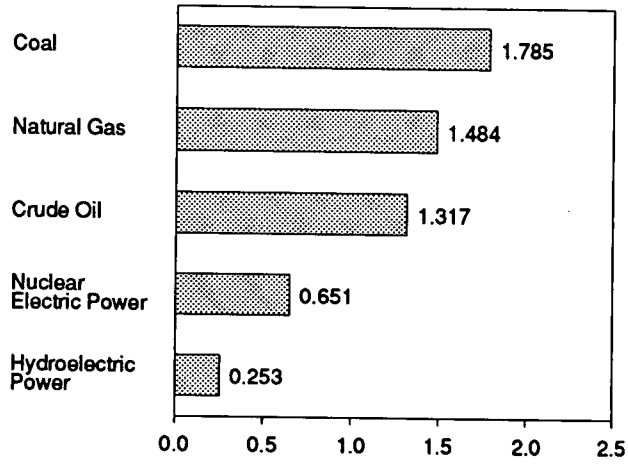

### Production by Major Sources, Monthly




### Total Production, January-July




### Production by Major Sources, July 1991




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 1.3.

# Table 1.3 Energy Production by Source

(Quadrillion Btu)

| | Coal | Natural Gas (Dry) | Crude Oil[a] | Natural Gas Plant Liquids | Nuclear Electric Power | Hydro-electric Power[b] | Other[c] | Total[d] |
|---|---|---|---|---|---|---|---|---|
| **1973 Total** | **13.993** | **22.187** | **19.493** | **2.569** | **0.910** | **2.861** | **0.046** | **62.060** |
| **1974 Total** | **14.074** | **21.210** | **18.575** | **2.471** | **1.272** | **3.177** | **.056** | **60.835** |
| **1975 Total** | **14.990** | **19.640** | **17.729** | **2.374** | **1.900** | **3.155** | **.072** | **59.860** |
| **1976 Total** | **15.654** | **19.480** | **17.262** | **2.327** | **2.111** | **2.976** | **.081** | **59.892** |
| **1977 Total** | **15.755** | **19.565** | **17.454** | **2.327** | **2.702** | **2.333** | **.082** | **60.219** |
| **1978 Total** | **14.910** | **19.485** | **18.434** | **2.245** | **3.024** | **2.937** | **.068** | **61.103** |
| **1979 Total** | **17.539** | **20.076** | **18.104** | **2.286** | **2.776** | **2.931** | **.089** | **63.801** |
| **1980 Total** | **18.597** | **19.908** | **18.249** | **2.254** | **2.739** | **2.900** | **.114** | **64.761** |
| **1981 Total** | **18.376** | **19.699** | **18.146** | **2.307** | **3.008** | **2.758** | **.127** | **64.421** |
| **1982 Total** | **18.639** | **18.255** | **18.309** | **2.191** | **3.131** | **3.266** | **.108** | **63.898** |
| **1983 Total** | **17.246** | **16.530** | **18.392** | **2.184** | **3.203** | **3.527** | **.133** | **61.215** |
| **1984 Total** | **19.719** | **17.931** | **18.848** | **2.274** | **3.553** | **3.348** | **.174** | **65.847** |
| **1985 Total** | **19.325** | **16.906** | **18.992** | **2.241** | **4.149** | **2.939** | **.213** | **64.765** |
| **1986 Total** | **19.510** | **16.471** | **18.376** | **2.149** | **4.471** | **3.017** | **.231** | **64.225** |
| **1987 Total** | **20.142** | **17.049** | **17.675** | **2.215** | **4.906** | **2.593** | **.244** | **64.823** |
| **1988 Total** | **20.737** | **17.519** | **17.279** | **2.260** | **5.661** | **2.314** | **.235** | **66.005** |
| 1989 January | 1.792 | 1.579 | 1.427 | .197 | .497 | .219 | .019 | 5.731 |
| February | 1.641 | 1.459 | 1.265 | .172 | .415 | .195 | .017 | 5.164 |
| March | 1.946 | 1.547 | 1.362 | .196 | .425 | .237 | .020 | 5.732 |
| April | 1.686 | 1.472 | 1.352 | .192 | .359 | .252 | .017 | 5.331 |
| May | 1.802 | 1.492 | 1.405 | .192 | .411 | .293 | .018 | 5.614 |
| June | 1.715 | 1.431 | 1.327 | .173 | .461 | .271 | .018 | 5.395 |
| July | 1.449 | 1.459 | 1.338 | .183 | .561 | .237 | .019 | 5.247 |
| August | 1.988 | 1.448 | 1.356 | .178 | .589 | .211 | .018 | 5.789 |
| September | 1.853 | 1.378 | 1.313 | .170 | .481 | .198 | .017 | 5.410 |
| October | 1.956 | 1.446 | 1.340 | .175 | .467 | .210 | .018 | 5.613 |
| November | 1.899 | 1.506 | 1.311 | .170 | .465 | .221 | .017 | 5.590 |
| December | 1.618 | 1.561 | 1.319 | .159 | .545 | .228 | .018 | 5.449 |
| **Total** | **21.345** | **17.779** | **16.117** | **2.158** | **5.677** | **2.771** | **.217** | **66.065** |
| 1990 January | [R]1.977 | 1.655 | 1.357 | .183 | .591 | .245 | .018 | [R]6.025 |
| February | 1.790 | 1.472 | 1.218 | .168 | .536 | .252 | .016 | 5.452 |
| March | [R]2.000 | 1.562 | 1.337 | .181 | .494 | .293 | .018 | [R]5.884 |
| April | 1.815 | 1.473 | 1.289 | .171 | .413 | .265 | .014 | [R]5.442 |
| May | [R]1.889 | 1.499 | 1.318 | .178 | .461 | .282 | .017 | [R]5.643 |
| June | [R]1.847 | 1.450 | 1.236 | .167 | .497 | .289 | .017 | 5.502 |
| July | 1.742 | 1.469 | 1.290 | .176 | .575 | .247 | .017 | 5.517 |
| August | 2.005 | 1.481 | 1.310 | .187 | .598 | .220 | .017 | 5.817 |
| September | 1.814 | 1.417 | 1.257 | .183 | .520 | .178 | .016 | 5.385 |
| October | 2.039 | 1.521 | 1.356 | .198 | .465 | .194 | .017 | 5.790 |
| November | 1.894 | 1.542 | 1.285 | .194 | .483 | .209 | .016 | [R]5.623 |
| December | 1.652 | 1.615 | 1.319 | .190 | .553 | .250 | .017 | 5.596 |
| **Total** | [R]**22.463** | **18.155** | **15.571** | **2.174** | **6.186** | **2.924** | **.202** | [R]**67.676** |
| 1991 January | 1.878 | 1.621 | 1.334 | .194 | .583 | .268 | .017 | 5.895 |
| February | 1.808 | 1.469 | 1.226 | .181 | .513 | .229 | .014 | 5.441 |
| March | 1.861 | 1.554 | 1.345 | .198 | .527 | .270 | .016 | 5.771 |
| April | 1.775 | 1.485 | 1.299 | .190 | .447 | .268 | .015 | 5.479 |
| May | 1.786 | 1.497 | 1.325 | .195 | .501 | .297 | .015 | 5.617 |
| June | 1.719 | [R]1.446 | 1.267 | .185 | .581 | .270 | .016 | [R]5.486 |
| July | 1.785 | 1.484 | 1.317 | .190 | .651 | .253 | .016 | 5.697 |
| **7-Month Total** | **12.612** | **10.555** | **9.113** | **1.333** | **3.804** | **1.856** | **.110** | **39.384** |
| **1990 7-Month Total** | **13.059** | **10.580** | **9.044** | **1.223** | **3.567** | **1.873** | **.118** | **39.464** |
| **1989 7-Month Total** | **12.031** | **10.439** | **9.477** | **1.305** | **3.130** | **1.704** | **.128** | **38.214** |

[a] Includes lease condensate.
[b] Electric utility and industrial production of hydroelectric power.
[c] Other production is electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy.
[d] Excludes wood, waste, geothermal, wind, photovoltaic, and solar thermal energy, except for small amounts used by electric utilities to generate electricity for distribution.

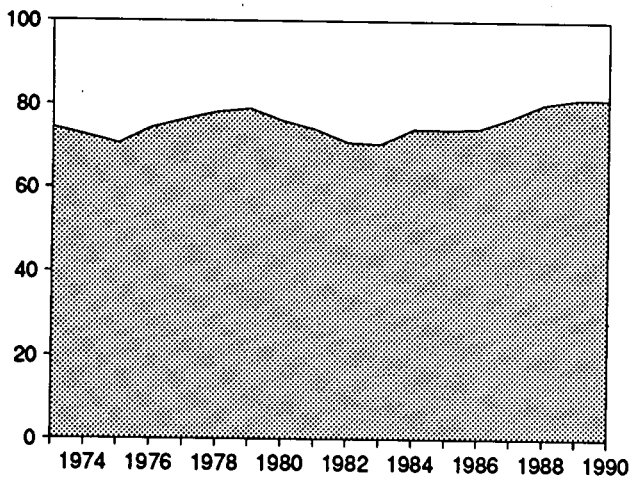
R=Revised data.

Notes: • See Note 1 at end of section. • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

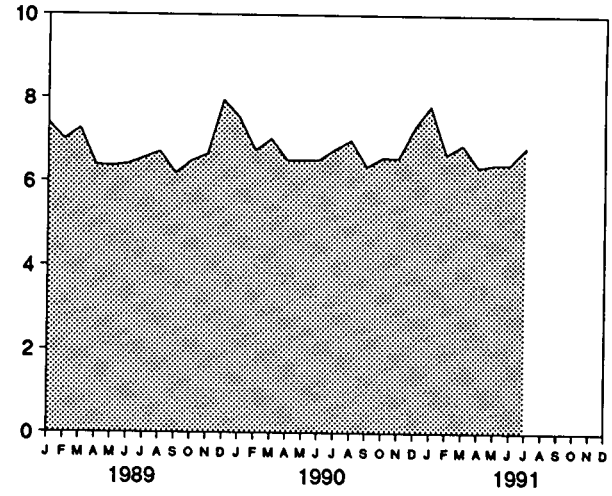
Sources: • **Coal**—Tables 6.1 and A6-A8. • **Natural Gas (Dry)**—Tables 4.1 and A5. • **Crude Oil and Natural Gas Plant Liquids**—Tables 3.1a and A3. • **Nuclear Electric Power**—Tables 7.1 and A9. • **Hydroelectric Power**—Table 7.1; Section 2, "Energy Consumption Notes and Sources," Note 7; and Table A9. • **Other**—Section 2, "Energy Consumption Notes and Sources," Note 8, and Table A9.

## Figure 1.3 Energy Consumption
(Quadrillion Btu)

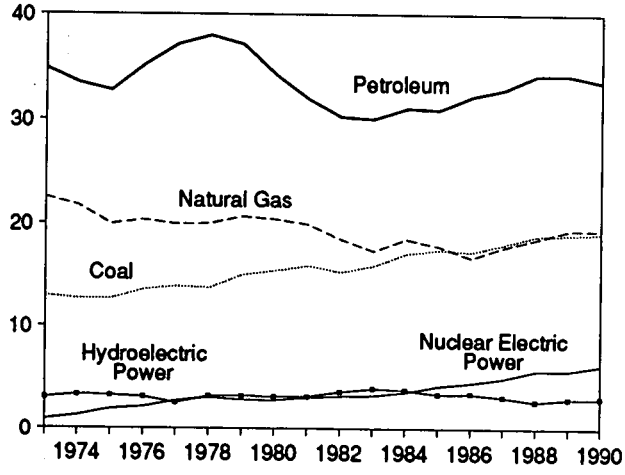
### Total Consumption, 1973-1990



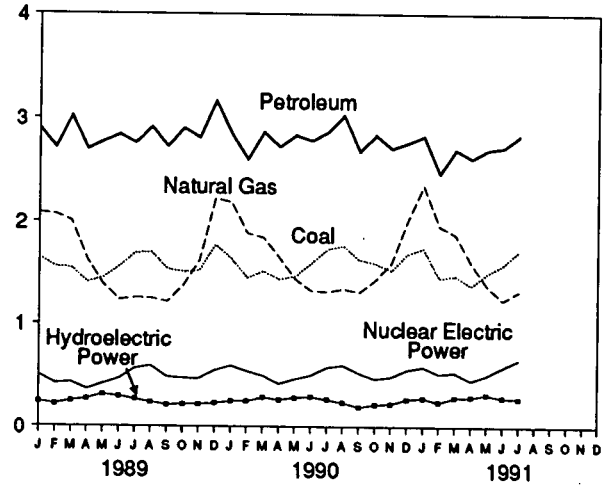

### Total Consumption, Monthly



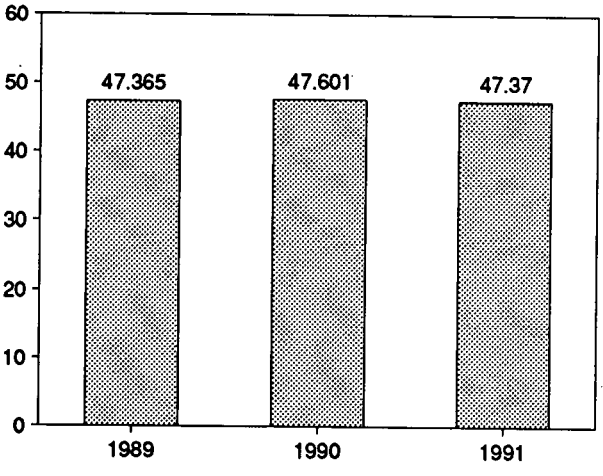

### Consumption by Major Sources, 1973-1990



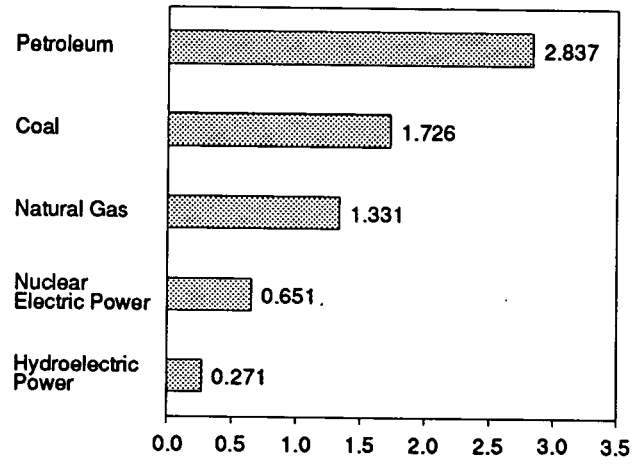

### Consumption by Major Sources, Monthly




### Total Consumption, January-July




### Consumption by Major Sources, July 1991




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 1.4.

# Table 1.4 Energy Consumption by Source

(Quadrillion Btu)

| | Coal | Natural Gas[a] | Petroleum | Nuclear Electric Power | Hydro-electric Power[b] | Other[c] | Total[d] |
|---|---|---|---|---|---|---|---|
| **1973 Total** | **12.971** | **22.512** | **34.840** | **0.910** | **3.010** | **0.039** | **74.282** |
| **1974 Total** | **12.663** | **21.732** | **33.455** | **1.272** | **3.309** | **.112** | **72.543** |
| **1975 Total** | **12.663** | **19.948** | **32.731** | **1.900** | **3.219** | **.086** | **70.546** |
| **1976 Total** | **13.584** | **20.345** | **35.175** | **2.111** | **3.066** | **.081** | **74.362** |
| **1977 Total** | **13.922** | **19.931** | **37.122** | **2.702** | **2.515** | **.097** | **76.288** |
| **1978 Total** | **13.765** | **20.000** | **37.965** | **3.024** | **3.141** | **.193** | **78.089** |
| **1979 Total** | **15.039** | **20.666** | **37.123** | **2.776** | **3.141** | **.152** | **78.898** |
| **1980 Total** | **15.423** | **20.394** | **34.202** | **2.739** | **3.118** | **.079** | **75.955** |
| **1981 Total** | **15.907** | **19.928** | **31.931** | **3.008** | **3.105** | **.111** | **73.990** |
| **1982 Total** | **15.322** | **18.505** | **30.231** | **3.131** | **3.572** | **.086** | **70.848** |
| **1983 Total** | **15.894** | **17.357** | **30.054** | **3.203** | **3.899** | **.118** | **70.524** |
| **1984 Total** | **17.070** | **18.507** | **31.051** | **3.553** | **3.757** | **.163** | **74.101** |
| **1985 Total** | **17.478** | **17.834** | **30.922** | **4.149** | **3.363** | **.199** | **73.945** |
| **1986 Total** | **17.262** | **16.708** | **32.196** | **4.471** | **3.385** | **.215** | **74.237** |
| **1987 Total** | **18.008** | **17.744** | **32.865** | **4.906** | **3.068** | **.253** | **76.844** |
| **1988 Total** | **18.846** | **18.552** | **34.222** | **5.661** | **2.639** | **.274** | **80.195** |
| **1989** January | 1.652 | 2.087 | 2.896 | .497 | .234 | .026 | 7.391 |
| February | 1.561 | 2.071 | 2.714 | .415 | .214 | .019 | 6.995 |
| March | 1.549 | 2.007 | 3.017 | .425 | .243 | .023 | 7.265 |
| April | 1.412 | 1.631 | 2.698 | .359 | .262 | .024 | 6.386 |
| May | 1.456 | 1.392 | 2.775 | .411 | .306 | .024 | 6.363 |
| June | 1.561 | 1.238 | 2.840 | .461 | .287 | .022 | 6.409 |
| July | 1.694 | 1.260 | 2.759 | .561 | .259 | .022 | 6.556 |
| August | 1.705 | 1.255 | 2.912 | .589 | .229 | .021 | 6.710 |
| September | 1.540 | 1.219 | 2.726 | .481 | .207 | .019 | 6.191 |
| October | 1.514 | 1.381 | 2.902 | .467 | .210 | .014 | 6.488 |
| November | 1.524 | 1.617 | 2.810 | .465 | .212 | .016 | 6.644 |
| December | 1.776 | 2.224 | 3.163 | .545 | .223 | .016 | 7.946 |
| **Total** | **18.944** | **19.382** | **34.211** | **5.677** | **2.884** | **.248** | **81.345** |
| **1990** January | 1.641 | R2.188 | 2.846 | .591 | .241 | .018 | R7.525 |
| February | 1.457 | R1.889 | 2.602 | .536 | .241 | .016 | R6.741 |
| March | 1.519 | R1.849 | 2.866 | .494 | .278 | .019 | R7.024 |
| April | 1.445 | R1.654 | 2.724 | .413 | .258 | .014 | R6.507 |
| May | 1.473 | R1.446 | 2.837 | .461 | .276 | .017 | R6.510 |
| June | 1.599 | R1.333 | 2.786 | .497 | .284 | .018 | R6.517 |
| July | 1.734 | R1.322 | 2.866 | .575 | .259 | .021 | R6.776 |
| August | 1.770 | R1.351 | 3.028 | .598 | .230 | .017 | R6.993 |
| September | 1.632 | R1.318 | 2.680 | .520 | .187 | .017 | R6.354 |
| October | 1.600 | R1.439 | 2.841 | .465 | .210 | .018 | R6.573 |
| November | 1.531 | R1.601 | 2.710 | .483 | .219 | .015 | R6.559 |
| December | 1.692 | 2.008 | 2.767 | .553 | .263 | .018 | 7.301 |
| **Total** | **19.094** | **R19.398** | **33.553** | **6.186** | **2.944** | **.207** | **R81.382** |
| **1991** January | 1.745 | R2.354 | 2.832 | .583 | .276 | .018 | R7.807 |
| February | 1.458 | R1.964 | 2.467 | .513 | .235 | .015 | R6.652 |
| March | 1.480 | R1.883 | 2.701 | .527 | .280 | .018 | R6.888 |
| April | 1.387 | R1.601 | 2.614 | .447 | .284 | .016 | R6.348 |
| May | 1.503 | R1.384 | 2.700 | .501 | .311 | .016 | R6.415 |
| June | 1.588 | R1.241 | 2.721 | .581 | .278 | .015 | R6.425 |
| July | 1.726 | 1.331 | 2.837 | .651 | .271 | .019 | 6.835 |
| **7-Month Total** | **10.886** | **11.758** | **18.872** | **3.804** | **1.935** | **.117** | **47.370** |
| **1990 7-Month Total** | **10.868** | **11.680** | **19.527** | **3.567** | **1.837** | **.122** | **47.601** |
| **1989 7-Month Total** | **10.884** | **11.686** | **19.700** | **3.130** | **1.804** | **.161** | **47.365** |

[a] Includes supplemental gaseous fuels.
[b] Electric utility and industrial production and net imports of electricity.
[c] Other consumption is net imports of coal coke and electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy.
[d] Excludes wood, waste, geothermal, wind, photovoltaic, and solar thermal energy, except for small amounts used by electric utilities to generate electricity for distribution.

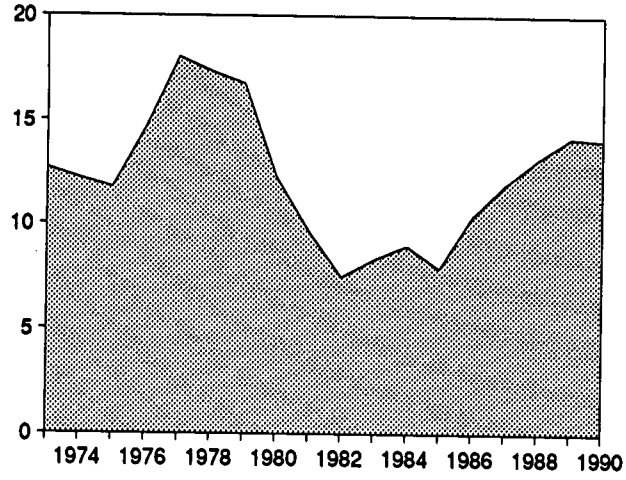
R=Revised data.

Notes: • See Note 2 at end of section. • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

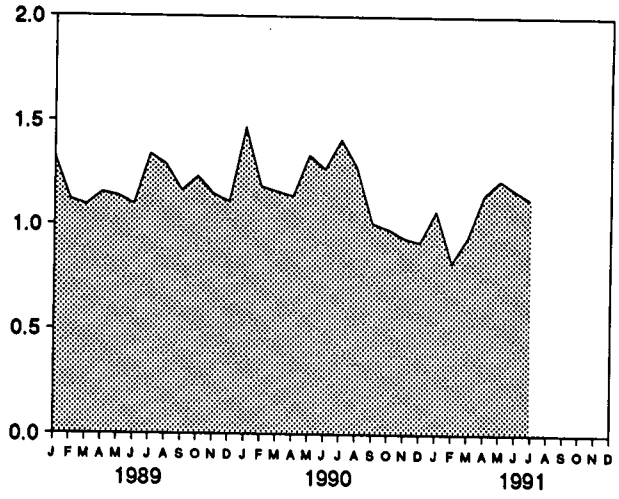
Sources: • **Coal**—Tables 6.1 and A6-A8. • **Natural Gas**—Tables 4.2 and A5. • **Petroleum**—Tables 3.1a and A4. • **Nuclear Electric Power**—Tables 7.1 and A9. • **Hydroelectric Power**—Table 7.1; Section 2, "Energy Consumption Notes and Sources," Note 8; and Table A9. • **Other**—Section 2, "Energy Consumption Notes and Sources," Note 7, and Table A9.

## Figure 1.4 Energy Net Imports
(Quadrillion Btu, Except as Noted)

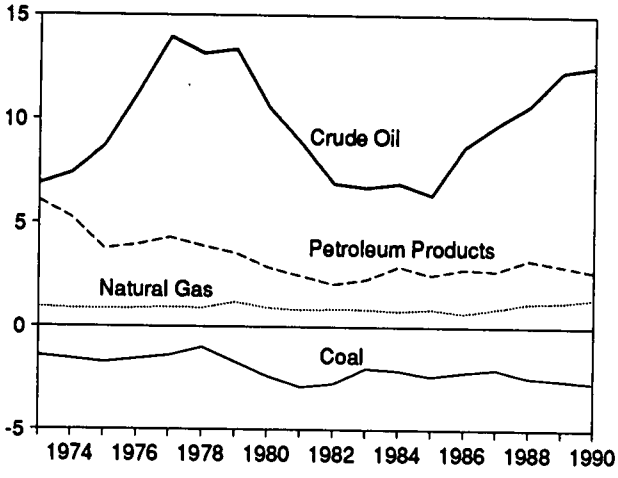
### Total Net Imports, 1973-1990



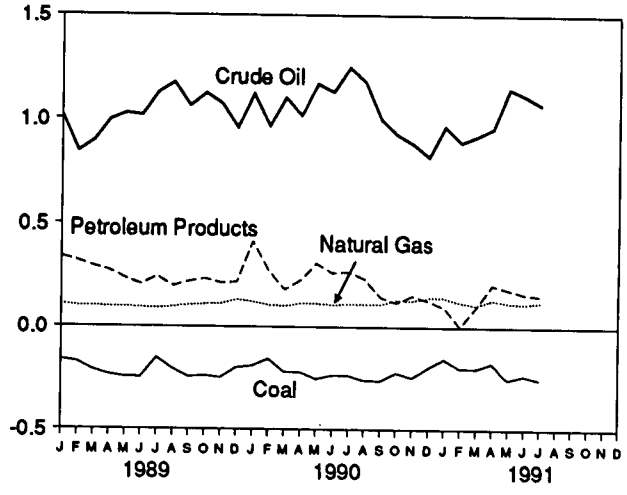

### Net Imports, Monthly



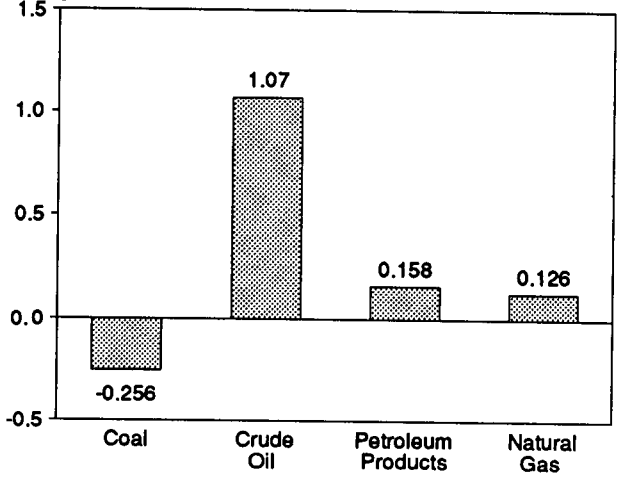

### Net Imports by Major Sources, 1973-1990



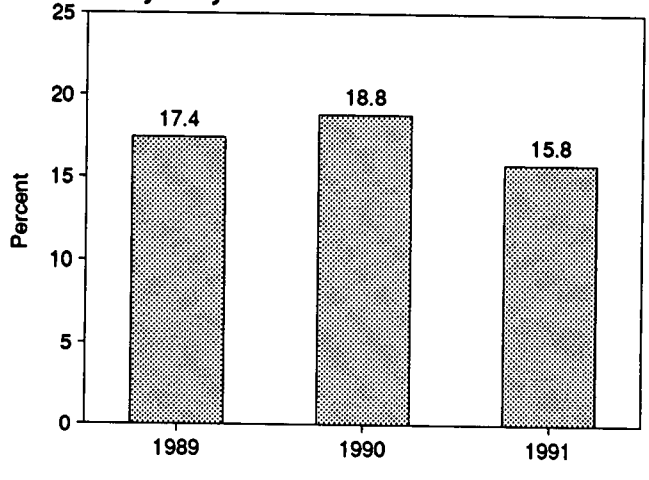

### Net Imports by Major Sources, Monthly




### Net Imports by Major Sources, July 1991




### Net Imports as Share of Consumption, January-July




Note: Because vertical scales differ, graphs should not be compared.
Sources: Tables 1.4 and 1.5.

# Table 1.5 Energy Net Imports by Source

(Quadrillion Btu)

| | Coal | Natural Gas | Crude Oil[a] | Petroleum Products[b] | Electricity[c] | Coal Coke | Total |
|---|---|---|---|---|---|---|---|
| **1973 Total** | **-1.422** | **0.981** | **6.883** | **6.097** | **0.148** | **-0.007** | **12.680** |
| **1974 Total** | **-1.568** | **.907** | **7.389** | **5.273** | **.133** | **.056** | **12.190** |
| **1975 Total** | **-1.738** | **.904** | **8.708** | **3.800** | **.064** | **.014** | **11.752** |
| **1976 Total** | **-1.567** | **.922** | **11.221** | **3.982** | **.089** | **(s)** | **14.648** |
| **1977 Total** | **-1.401** | **.981** | **13.921** | **4.321** | **.182** | **.015** | **18.019** |
| **1978 Total** | **-1.004** | **.941** | **13.125** | **3.932** | **.204** | **.125** | **17.323** |
| **1979 Total** | **-1.702** | **1.243** | **13.328** | **3.603** | **.211** | **.063** | **16.746** |
| **1980 Total** | **-2.391** | **.957** | **10.586** | **2.912** | **.217** | **-.035** | **12.247** |
| **1981 Total** | **-2.918** | **.857** | **8.854** | **2.522** | **.347** | **-.016** | **9.646** |
| **1982 Total** | **-2.768** | **.898** | **6.917** | **2.128** | **.306** | **-.022** | **7.460** |
| **1983 Total** | **-2.013** | **.885** | **6.731** | **2.351** | **.372** | **-.016** | **8.310** |
| **1984 Total** | **-2.119** | **.792** | **6.918** | **2.970** | **.409** | **-.011** | **8.959** |
| **1985 Total** | **-2.389** | **.896** | **6.381** | **2.570** | **.423** | **-.013** | **7.868** |
| **1986 Total** | **-2.193** | **.686** | **8.676** | **2.855** | **.368** | **-.017** | **10.376** |
| **1987 Total** | **-2.049** | **.937** | **9.748** | **2.764** | **.475** | **.009** | **11.903** |
| **1988 Total** | **-2.446** | **1.221** | **10.698** | **3.308** | **.325** | **.040** | **13.146** |
| **1989** January | -.163 | .112 | 1.012 | .340 | .014 | .007 | 1.323 |
| February | -.173 | .103 | .843 | .321 | .019 | .002 | 1.116 |
| March | -.211 | .102 | .894 | .295 | .006 | .003 | 1.090 |
| April | -.234 | .099 | .994 | .276 | .010 | .007 | 1.152 |
| May | -.246 | .100 | 1.025 | .238 | .012 | .006 | 1.136 |
| June | -.247 | .095 | 1.016 | .210 | .016 | .004 | 1.095 |
| July | -.153 | .092 | 1.125 | .248 | .022 | .004 | 1.338 |
| August | -.206 | .099 | 1.173 | .202 | .018 | .003 | 1.288 |
| September | -.245 | .108 | 1.062 | .224 | .009 | .002 | 1.161 |
| October | -.239 | .113 | 1.122 | .237 | (s) | -.004 | 1.230 |
| November | -.249 | .115 | 1.073 | .217 | -.009 | -.001 | 1.145 |
| December | -.199 | .137 | .956 | .221 | -.005 | -.002 | 1.108 |
| **Total** | **-2.566** | **1.278** | **12.296** | **3.029** | **.113** | **.030** | **14.181** |
| **1990** January | -.191 | .126 | 1.120 | .415 | -.003 | (s) | 1.467 |
| February | -.157 | .110 | .964 | .276 | -.011 | (s) | 1.182 |
| March | -.220 | .105 | 1.102 | .186 | -.015 | .001 | 1.159 |
| April | -.220 | .117 | 1.016 | .231 | -.007 | -.001 | 1.136 |
| May | -.254 | .117 | 1.168 | .310 | -.006 | (s) | 1.335 |
| June | -.235 | .111 | 1.129 | .266 | -.005 | .001 | 1.267 |
| July | -.236 | .115 | 1.246 | .272 | .011 | .003 | 1.412 |
| August | -.261 | .113 | 1.176 | .239 | .010 | -.001 | 1.277 |
| September | -.263 | .113 | .997 | .150 | .009 | .001 | 1.007 |
| October | -.222 | .136 | .926 | .123 | .015 | .001 | .979 |
| November | -.246 | .134 | .882 | .157 | .010 | -.001 | .936 |
| December | -.198 | .149 | .820 | .133 | .013 | .001 | .917 |
| **Total** | **-2.704** | **1.450** | **12.545** | **2.757** | **.020** | **.005** | **14.073** |
| **1991** January | -.156 | .148 | .967 | .099 | E .008 | .001 | 1.067 |
| February | -.202 | .124 | .889 | .001 | E .006 | .001 | .819 |
| March | -.203 | .110 | .920 | .101 | E .011 | .002 | .941 |
| April | -.176 | .137 | .956 | .211 | E .015 | .001 | 1.144 |
| May | -.256 | .122 | 1.146 | .189 | E .014 | .001 | 1.216 |
| June | -.236 | .117 | 1.112 | .166 | E .008 | -.001 | 1.165 |
| July | -.256 | .126 | 1.070 | .158 | E .017 | .003 | 1.119 |
| **7-Month Total** | **-1.486** | **.887** | **7.060** | **.925** | E **.078** | **.006** | **7.470** |
| **1990 7-Month Total** | **-1.513** | **.803** | **7.744** | **1.955** | **-.036** | **.004** | **8.958** |
| **1989 7-Month Total** | **-1.427** | **.705** | **6.911** | **1.928** | **.101** | **.033** | **8.250** |

[a] Crude oil, lease condensate, and imports of crude oil for the Strategic Petroleum Reserve.

[b] Petroleum products, unfinished oils, pentanes plus, and gasoline blending components.

[c] Assumed to be hydroelectricity and estimated at the average input heat rate for fossil-fuel steam-electric power plant generation, which has ranged from 10.2 thousand Btu to 10.5 thousand Btu per kilowatthour since 1973. Actual heat rates applied in converting kilowatthours to Btu are listed by year in Table A9.

E=Estimate. (s)=Less than +0.5 trillion Btu and greater than -0.5 trillion Btu.

Notes: • See Notes 3 and 4 at end of section. • Net imports equals imports minus exports. Minus sign indicates exports are greater than imports.

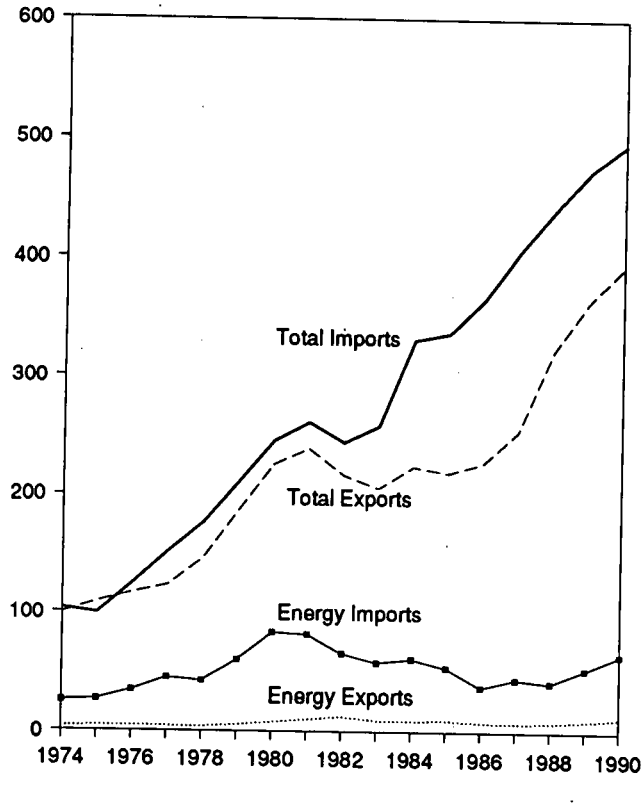
• Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

Sources: • **Coal**—Tables 6.1 and A6-A8. • **Natural Gas**—Tables 4.2 and A5. • **Crude Oil and Petroleum Products**—Tables 3.1b and A3.

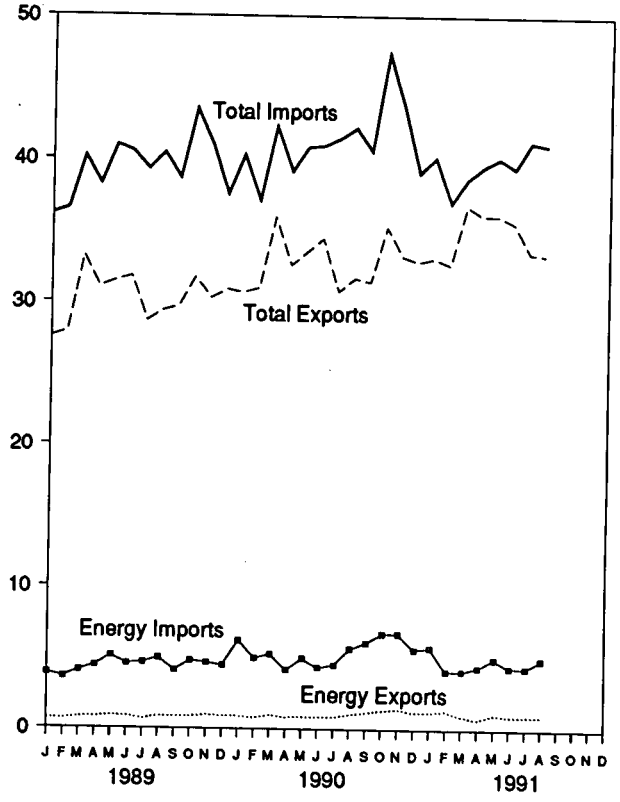
• **Electricity**—Section 2, "Energy Consumption Notes and Sources," Note 8, and Table A9. • **Coal Coke**—Section 2, "Energy Consumption Notes and Sources," Note 9, and Table A8.

## Figure 1.5 Merchandise Trade Value
(Billion Dollars)

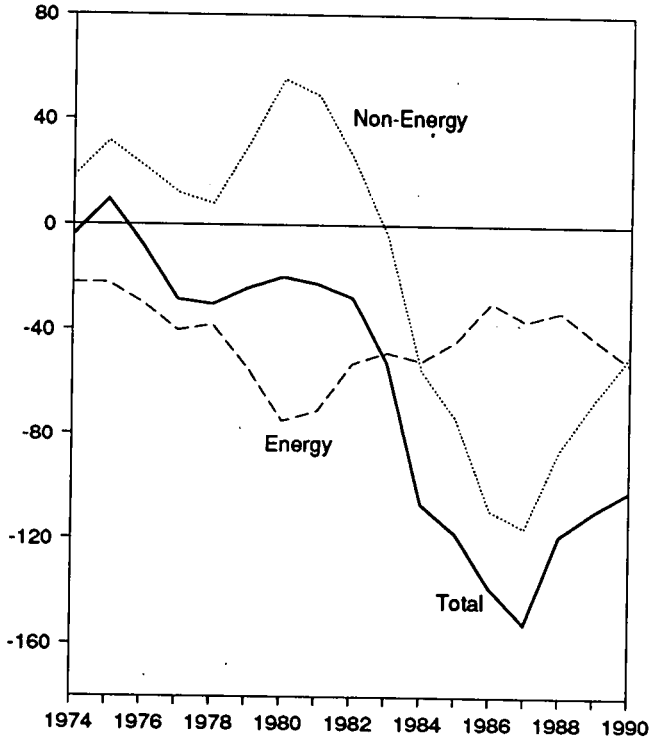
### Imports and Exports, 1974-1990



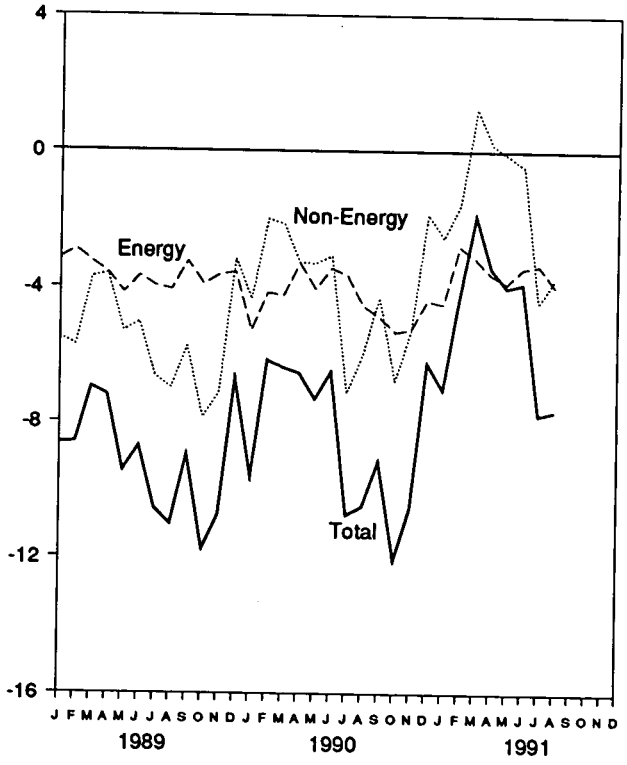

### Imports and Exports, Monthly




### Trade Balance, 1974-1990




### Trade Balance, Monthly




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 1.6.

# Table 1.6 Merchandise Trade Value

(Million Dollars)

| | Petroleum | | | Energy | | | Non-Energy Balance | Total Merchandise | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Exports | Imports | Balance | Exports | Imports | Balance | | Exports | Imports | Balance |
| **1974 Total** | 792 | 24,668 | -23,876 | 3,444 | 25,454 | -22,010 | 18,126 | 99,437 | 103,321 | -3,884 |
| **1975 Total** | 907 | 25,197 | -24,289 | 4,470 | 26,476 | -22,006 | 31,557 | 108,856 | 99,305 | 9,551 |
| **1976 Total** | 998 | 32,226 | -31,228 | 4,226 | 33,996 | -29,770 | 21,950 | 116,794 | 124,614 | -7,820 |
| **1977 Total** | 1,276 | 42,368 | -41,093 | 4,184 | 44,537 | -40,354 | 12,001 | 123,182 | 151,534 | -28,353 |
| **1978 Total** | 1,561 | 39,526 | -37,965 | 3,881 | 42,096 | -38,215 | 8,010 | 145,847 | 176,052 | -30,205 |
| **1979 Total** | 1,914 | 56,715 | -54,801 | 5,621 | 59,998 | -54,377 | 30,455 | 186,363 | 210,285 | -23,922 |
| **1980 Total** | 2,833 | 78,637 | -75,803 | 7,982 | 82,924 | -74,942 | 55,246 | 225,566 | 245,262 | -19,696 |
| **1981 Total** | 3,696 | 76,659 | -72,963 | 10,279 | 81,360 | -71,081 | 48,814 | 238,715 | 260,982 | -22,267 |
| **1982 Total** | 5,947 | 60,458 | -54,511 | 12,729 | 65,409 | -52,680 | 25,170 | 216,442 | 243,952 | -27,510 |
| **1983 Total** | 4,557 | 53,217 | -48,659 | 9,500 | 57,952 | -48,452 | -3,957 | 205,639 | 258,048 | -52,409 |
| **1984 Total** | 4,470 | 56,924 | -52,454 | 9,311 | 60,980 | -51,669 | -55,033 | 223,976 | 330,678 | -106,703 |
| **1985 Total** | 4,707 | 50,475 | -45,768 | 9,971 | 53,917 | -43,946 | -73,765 | 218,815 | 336,526 | -117,712 |
| **1986 Total** | 3,640 | 35,142 | -31,503 | 8,115 | 37,310 | -29,195 | -109,084 | 227,159 | 365,438 | -138,279 |
| **1987 Total** | 3,922 | 42,285 | -38,363 | 7,713 | 44,220 | -36,506 | -115,613 | 254,122 | 406,241 | -152,119 |
| **1988 Total** | 3,693 | 38,787 | -35,094 | 8,235 | 41,042 | -32,807 | -85,720 | 322,426 | 440,952 | -118,526 |
| **1989** January | 403 | 3,505 | -3,102 | 678 | 3,816 | -3,138 | -5,501 | 27,541 | 36,179 | -8,639 |
| February | 337 | 3,276 | -2,938 | 673 | 3,567 | -2,894 | -5,728 | 27,927 | 36,549 | -8,622 |
| March | 372 | 3,751 | -3,379 | 783 | 4,024 | -3,241 | -3,712 | 33,243 | 40,197 | -6,954 |
| April | 384 | 4,170 | -3,786 | 814 | 4,392 | -3,578 | -3,613 | 31,052 | 38,243 | -7,191 |
| May | 435 | 4,789 | -4,354 | 905 | 5,057 | -4,152 | -5,311 | 31,496 | 40,959 | -9,463 |
| June | 413 | 4,275 | -3,862 | 854 | 4,523 | -3,670 | -5,054 | 31,820 | 40,544 | -8,724 |
| July | 384 | 4,397 | -4,013 | 676 | 4,629 | -3,953 | -6,629 | 28,708 | 39,290 | -10,582 |
| August | 487 | 4,665 | -4,178 | 865 | 4,925 | -4,060 | -6,975 | 29,406 | 40,440 | -11,034 |
| September | 407 | 3,846 | -3,439 | 852 | 4,074 | -3,222 | -5,749 | 29,710 | 38,680 | -8,971 |
| October | 411 | 4,519 | -4,108 | 853 | 4,757 | -3,904 | -7,876 | 31,756 | 43,536 | -11,780 |
| November | 523 | 4,387 | -3,864 | 990 | 4,616 | -3,626 | -7,128 | 30,279 | 41,033 | -10,754 |
| December | 466 | 4,125 | -3,660 | 885 | 4,430 | -3,545 | -3,142 | 30,874 | 37,561 | -6,687 |
| **Total** | **5,021** | **49,704** | **-44,683** | *** 9,869** | *** 52,779** | **-42,910** | **-66,490** | **363,812** | **473,211** | **-109,399** |
| **1990** January | 486 | 5,923 | -5,437 | 881 | 6,171 | -5,290 | -4,349 | 30,664 | 40,304 | -9,640 |
| February | 436 | 4,704 | -4,269 | 781 | 4,938 | -4,157 | -1,993 | 30,962 | 37,112 | -6,150 |
| March | 514 | 4,867 | -4,352 | 976 | 5,205 | -4,229 | -2,140 | 35,971 | 42,339 | -6,369 |
| April | 392 | 3,970 | -3,578 | 828 | 4,101 | -3,274 | -3,253 | 32,617 | 39,144 | -6,527 |
| May | 390 | 4,650 | -4,259 | 872 | 4,913 | -4,041 | -3,267 | 33,539 | 40,846 | -7,308 |
| June | 388 | 4,062 | -3,674 | 866 | 4,286 | -3,420 | -3,056 | 34,470 | 40,946 | -6,476 |
| July | 385 | 4,238 | -3,853 | 837 | 4,482 | -3,645 | -7,114 | 30,736 | 41,495 | -10,759 |
| August | 568 | 5,380 | -4,812 | 1,055 | 5,601 | -4,546 | -5,963 | 31,723 | 42,232 | -10,509 |
| September | 682 | 5,797 | -5,115 | 1,175 | 6,050 | -4,875 | -4,282 | 31,444 | 40,602 | -9,157 |
| October | 893 | 6,331 | -5,438 | 1,332 | 6,659 | -5,327 | -6,758 | 35,310 | 47,395 | -12,085 |
| November | 961 | 6,371 | -5,410 | 1,426 | 6,673 | -5,247 | -5,282 | 33,267 | 43,796 | -10,529 |
| December | 807 | 5,292 | -4,485 | 1,204 | 5,581 | -4,377 | -1,834 | 32,889 | 39,100 | -6,211 |
| **Total** | **6,901** | **61,583** | **-54,682** | **12,233** | **64,661** | **-52,428** | **-49,290** | **393,592** | **495,311** | **-101,718** |
| **1991** January | 896 | 5,394 | -4,497 | 1,206 | 5,696 | -4,490 | -2,527 | 33,150 | 40,167 | -7,017 |
| February | 907 | 3,754 | -2,847 | 1,305 | 4,072 | -2,767 | -1,565 | 32,683 | 37,016 | -4,333 |
| March | 556 | 3,814 | -3,257 | 938 | 4,057 | -3,119 | 1,246 | 36,797 | 38,670 | -1,873 |
| April | 389 | 4,055 | -3,666 | 732 | 4,340 | -3,608 | 189 | 36,110 | 39,529 | -3,419 |
| May | 604 | 4,656 | -4,052 | 1,067 | 4,927 | -3,860 | -126 | 36,136 | 40,121 | -3,986 |
| June | 503 | 4,111 | -3,608 | 925 | 4,337 | -3,413 | -449 | 35,573 | 39,435 | -3,861 |
| July | 505 | 4,041 | -3,536 | 971 | 4,290 | -3,319 | R-4,457 | R33,507 | R41,283 | R-7,776 |
| August | 465 | 4,637 | -4,173 | 956 | 4,890 | -3,934 | -3,727 | 33,376 | 41,037 | -7,661 |
| **8-Month Total** | **4,825** | **34,460** | **-29,635** | **8,099** | **36,609** | **-28,510** | **-11,416** | **277,331** | **317,257** | **-39,926** |

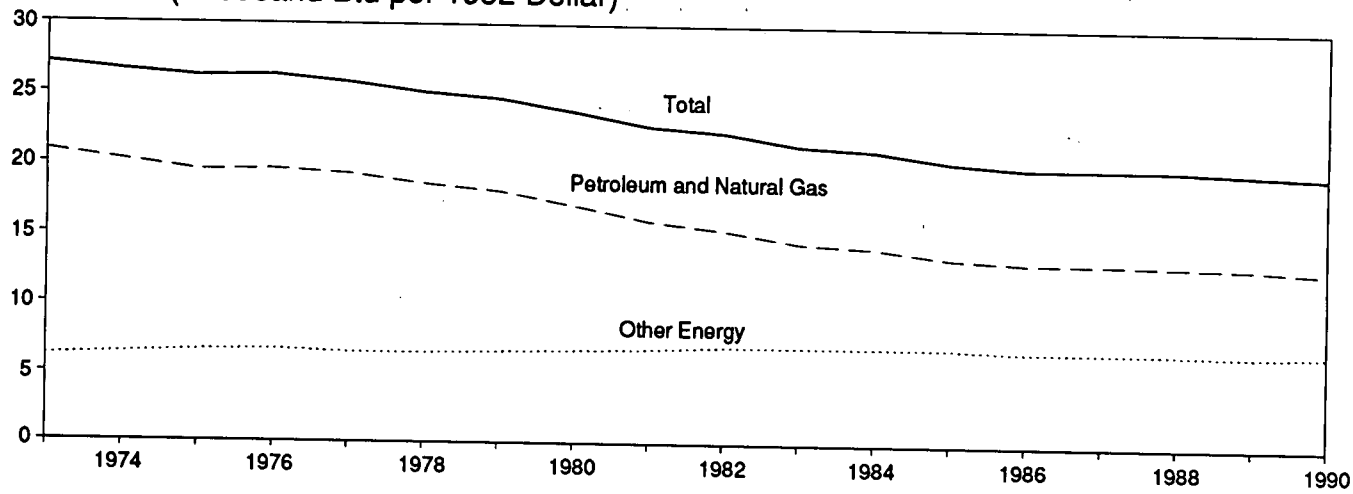
* Annual value is not equal to the sum of the months because some monthly revisions are not available for publication.

R=Revised data.

Notes: • Monthly data are not adjusted for seasonal variations. • The U.S. import statistics reflect both government and nongovernment imports of merchandise from foreign countries into the U.S. customs territory (which comprises the 50 States, the District of Columbia, and Puerto Rico) and the Virgin Islands. • See Note 5 at end of section. • Totals may not equal sum of components due to independent rounding.

Sources: U.S. Department of Commerce, Bureau of the Census, Foreign Trade Division. **Petroleum Exports:** 1974-1987: "U.S. Exports," FT410, December issues. 1988: "Report on U.S. Merchandise Trade 1988 Final Revisions." 1989: "Report on U.S. Merchandise Trade 1989 Revisions." 1990: "U.S. Merchandise Trade: 1990 Final Report." 1991: "U.S. Merchandise Trade," FT900, monthly. **Petroleum Imports:** 1974-1987: "U.S. Merchandise Trade," FT900, December issues, 1975-1988. 1988: "Report on U.S. Merchandise Trade 1988 Final Revisions." 1989: "Report on U.S. Merchandise Trade 1989 Revisions." 1990: "U.S. Merchandise Trade: 1990 Final Report." 1991: "U.S. Merchandise Trade," FT900, monthly. **Energy Exports and Imports:** 1974-1987: U.S. merchandise trade press releases and database printouts for adjustments. 1988: January-July, monthly FT900 supplement, 1989 issues. August-December, monthly FT900, 1989 issues. 1989: Monthly FT900, 1990 issues. 1990: "U.S. Merchandise Trade: 1990 Final Report." 1991: Monthly FT900 issues. **Total Merchandise:** 1974-1987: U.S. merchandise trade press releases and database printouts for adjustments. 1988: "Report on U.S. Merchandise Trade 1988 Final Revisions," August 18, 1989. 1989: "Report on U.S. Merchandise Trade 1989 Revisions," July 10, 1990. 1990: "U.S. Merchandise Trade: 1990 Final Report," May 10, 1991. 1991: Monthly FT900 issues. **Petroleum Balance, Energy Balance, and Non-Energy Balance:** Calculated by the Energy Information Administration.

## Figure 1.6 Energy Consumption per Dollar of Gross National Product
(Thousand Btu per 1982 Dollar)




Source: Table 1.7.

## Table 1.7 Energy Consumption per Dollar of Gross National Product
(Seasonally Adjusted at Annual Rates)

| | Energy Consumption | | | Gross National Product (GNP) | Energy Consumption per Dollar of GNP | | |
|---|---|---|---|---|---|---|---|
| | Petroleum and Natural Gas | Other Energy | Total[a] | | Petroleum and Natural Gas | Other Energy | Total |
| | Quadrillion Btu | | | Trillion 1982 Dollars | Thousand Btu per 1982 Dollar | | |
| **1973 Year** | **57.352** | **16.930** | **74.282** | **2.744** | **20.9** | **6.2** | **27.1** |
| **1974 Year** | **55.187** | **17.356** | **72.543** | **2.729** | **20.2** | **6.4** | **26.6** |
| **1975 Year** | **52.678** | **17.868** | **70.546** | **2.695** | **19.5** | **6.6** | **26.2** |
| **1976 Year** | **55.520** | **18.842** | **74.362** | **2.827** | **19.6** | **6.7** | **26.3** |
| **1977 Year** | **57.053** | **19.235** | **76.288** | **2.959** | **19.3** | **6.5** | **25.8** |
| **1978 Year** | **57.966** | **20.123** | **78.089** | **3.115** | **18.6** | **6.5** | **25.1** |
| **1979 Year** | **57.789** | **21.109** | **78.898** | **3.192** | **18.1** | **6.6** | **24.7** |
| **1980 Year** | **54.596** | **21.359** | **75.955** | **3.187** | **17.1** | **6.7** | **23.8** |
| **1981 Year** | **51.859** | **22.131** | **73.990** | **3.249** | **16.0** | **6.8** | **22.8** |
| **1982 Year** | **48.736** | **22.112** | **70.848** | **3.166** | **15.4** | **7.0** | **22.4** |
| **1983 Year** | **47.411** | **23.113** | **70.524** | **3.279** | **14.5** | **7.0** | **21.5** |
| **1984 Year** | **49.558** | **24.543** | **74.101** | **3.501** | **14.2** | **7.0** | **21.2** |
| **1985 Year** | **48.756** | **25.189** | **73.945** | **3.619** | **13.5** | **7.0** | **20.4** |
| **1986 Year** | **48.904** | **25.333** | **74.237** | **3.718** | **13.2** | **6.8** | **20.0** |
| **1987 Year** | **50.609** | **26.235** | **76.844** | **3.845** | **13.2** | **6.8** | **20.0** |
| **1988 Year** | **52.775** | **27.420** | **80.195** | **4.017** | **13.1** | **6.8** | **20.0** |
| **1989** 1st Quarter | 53.886 | 27.464 | 81.350 | 4.096 | 13.2 | 6.7 | 19.9 |
| 2nd Quarter | 53.543 | 27.643 | 81.186 | 4.112 | 13.0 | 6.7 | 19.7 |
| 3rd Quarter | 52.318 | 27.569 | 79.887 | 4.130 | 12.7 | 6.7 | 19.3 |
| 4th Quarter | 54.631 | 28.323 | 82.954 | 4.133 | 13.2 | 6.9 | 20.1 |
| **Year** | **53.593** | **27.752** | **81.345** | **4.118** | **13.0** | **6.7** | **19.8** |
| **1990** 1st Quarter | R51.854 | R28.146 | R80.000 | 4.151 | 12.5 | 6.8 | 19.3 |
| 2nd Quarter | R54.140 | R28.438 | R82.578 | 4.155 | 13.0 | 6.8 | 19.9 |
| 3rd Quarter | R53.929 | R28.490 | R82.419 | 4.170 | 12.9 | 6.8 | 19.8 |
| 4th Quarter | R51.870 | 28.640 | R80.510 | 4.153 | 12.5 | 6.9 | 19.4 |
| **Year** | **R52.951** | **R28.431** | **R81.382** | **4.157** | **12.7** | **6.8** | **19.6** |
| **1991** 1st Quarter | R51.777 | 28.446 | R80.223 | 4.124 | 12.6 | 6.9 | R19.5 |
| 2nd Quarter | R51.986 | 29.184 | R81.170 | R4.119 | 12.6 | 7.1 | 19.7 |

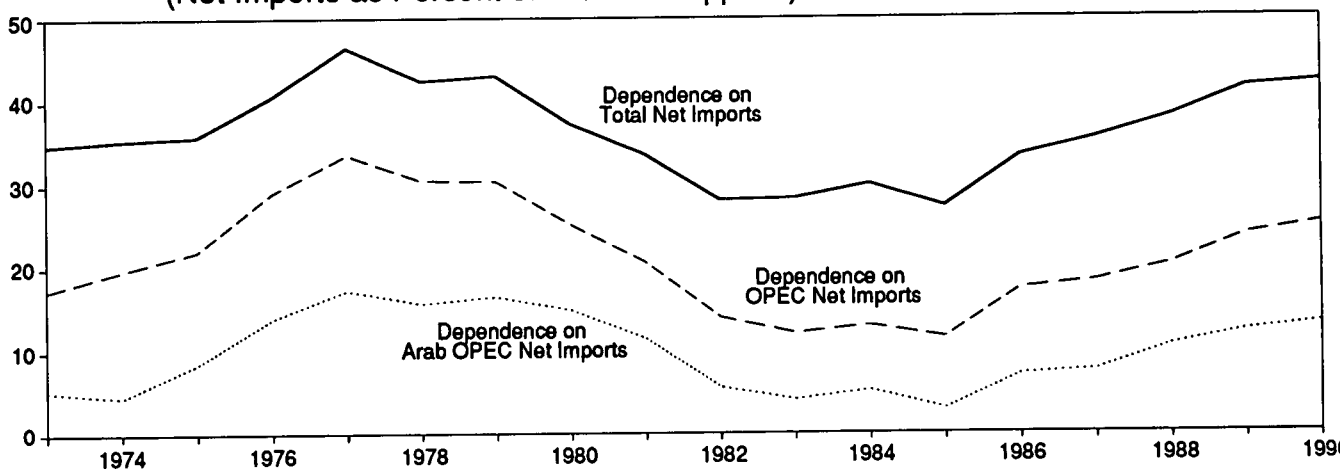
[a] Excludes wood, waste, geothermal, wind, photovoltaic, and solar thermal energy, except for small amounts used by electric utilities to generate electricity for distribution.

R=Revised data.

Notes: • Quarterly data are seasonally adjusted and shown at annual rates. • Geographic coverage is the 50 States and the District of Columbia. • Yearly data may not equal average of quarters due to seasonality adjustments and independent rounding.

Sources: • **Energy Consumption:** Table 1.4. • **Gross National Product:** 1973-1989: *Economic Report of the President*, February 1991, Table B-7. 1990 forward: U.S. Department of Commerce, Bureau of Economic Analysis, *United States Department of Commerce News*, September 26, 1991, Table 2.

## Figure 1.7 U.S. Dependence on Petroleum Net Imports
(Net Imports as Percent of Product Supplied)




Source: Table 1.8.

## Table 1.8 U.S. Dependence on Petroleum Net Imports

| Annual Rate | Net Imports[a] | | | Petroleum Products Supplied | Net Imports as Percent of U.S. Petroleum Products Supplied | | |
|---|---|---|---|---|---|---|---|
| | From Arab OPEC[b] | From OPEC[c] | From All Countries | | From Arab OPEC[b] | From OPEC[c] | From All Countries |
| | Thousand Barrels per Day | | | | Percent | | |
| **1973 Average** | **914** | **2,991** | **6,025** | **17,308** | **5.3** | **17.3** | **34.8** |
| **1974 Average** | **752** | **3,277** | **5,892** | **16,653** | **4.5** | **19.7** | **35.4** |
| **1975 Average** | **1,382** | **3,599** | **5,846** | **16,322** | **8.5** | **22.0** | **35.8** |
| **1976 Average** | **2,423** | **5,063** | **7,090** | **17,461** | **13.9** | **29.0** | **40.6** |
| **1977 Average** | **3,184** | **6,190** | **8,565** | **18,431** | **17.3** | **33.6** | **46.5** |
| **1978 Average** | **2,962** | **5,747** | **8,002** | **18,847** | **15.7** | **30.5** | **42.5** |
| **1979 Average** | **3,054** | **5,633** | **7,985** | **18,513** | **16.5** | **30.4** | **43.1** |
| **1980 Average** | **2,549** | **4,293** | **6,365** | **17,056** | **14.9** | **25.2** | **37.3** |
| **1981 Average** | **1,844** | **3,315** | **5,401** | **16,058** | **11.5** | **20.6** | **33.6** |
| **1982 Average** | **852** | **2,136** | **4,298** | **15,296** | **5.6** | **14.0** | **28.1** |
| **1983 Average** | **630** | **1,843** | **4,312** | **15,231** | **4.1** | **12.1** | **28.3** |
| **1984 Average** | **817** | **2,037** | **4,715** | **15,726** | **5.2** | **13.0** | **30.0** |
| **1985 Average** | **470** | **1,821** | **4,286** | **15,726** | **3.0** | **11.6** | **27.3** |
| **1986 Average** | **1,160** | **2,828** | **5,439** | **16,281** | **7.1** | **17.4** | **33.4** |
| **1987 Average** | **1,272** | **3,053** | **5,914** | **16,665** | **7.6** | **18.3** | **35.5** |
| **1988 Average** | **1,837** | **3,513** | **6,587** | **17,283** | **10.6** | **20.3** | **38.1** |
| 1989 1st Quarter | 2,046 | 3,911 | 7,080 | 17,719 | 11.5 | 22.1 | 40.0 |
| 2nd Quarter | 2,055 | 4,015 | 7,084 | 16,885 | 12.2 | 23.8 | 42.0 |
| 3rd Quarter | 2,318 | 4,383 | 7,512 | 16,870 | 13.7 | 26.0 | 44.5 |
| 4th Quarter | 2,091 | 4,180 | 7,127 | 17,830 | 11.7 | 23.4 | 40.0 |
| **Average** | **2,128** | **4,124** | **7,202** | **17,325** | **12.3** | **23.8** | **41.6** |
| 1990 1st Quarter | 2,420 | 4,617 | 7,721 | 17,072 | 14.2 | 27.0 | 45.2 |
| 2nd Quarter | 2,245 | 4,397 | 7,733 | 16,952 | 13.2 | 25.9 | 45.6 |
| 3rd Quarter | 2,514 | 4,621 | 7,565 | 17,223 | 14.6 | 26.8 | 43.9 |
| 4th Quarter | 1,795 | 3,513 | 5,643 | 16,708 | 10.7 | 21.0 | 33.8 |
| **Average** | **2,243** | **4,285** | **7,161** | **16,988** | **13.2** | **25.2** | **42.2** |
| 1991 1st Quarter | 1,957 | 3,699 | 5,633 | 16,427 | 11.9 | 22.5 | 34.3 |
| 2nd Quarter | 2,253 | 4,256 | 7,083 | 16,319 | 13.8 | 26.1 | 43.4 |

[a] Net imports is imports minus exports. Imports from members of the Organization of Petroleum Exporting Countries (OPEC) exclude indirect imports, which are petroleum products primarily from Caribbean and West European areas and refined from crude oil produced by OPEC.

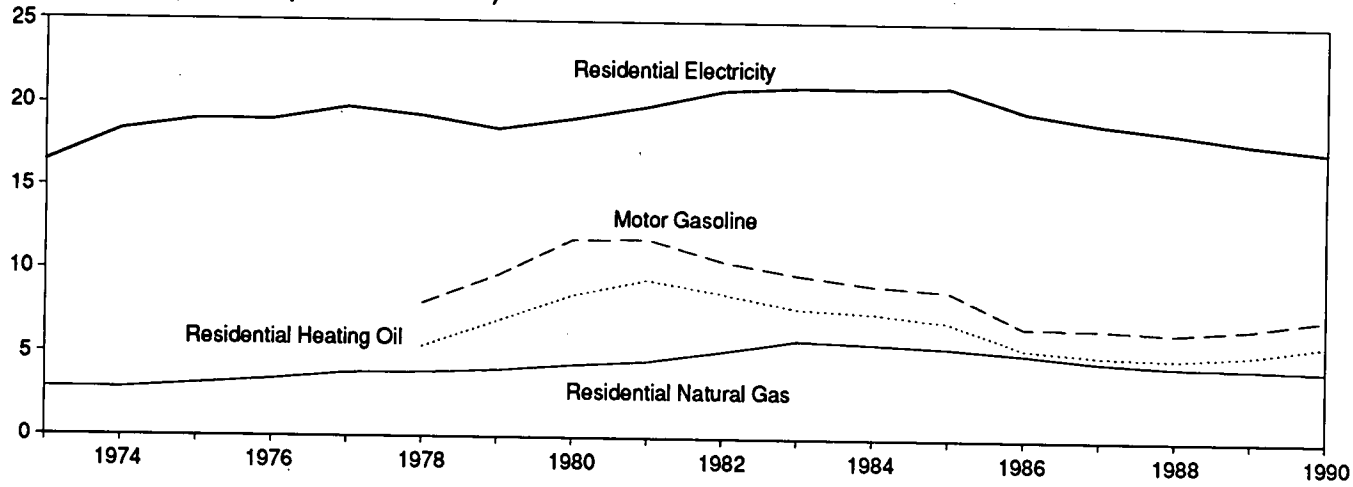
[b] The Arab members of OPEC are Algeria, Iraq, Kuwait, Libya, Qatar, Saudi Arabia, and the United Arab Emirates. Net imports from the Neutral Zone between Kuwait and Saudi Arabia are included in net imports from "Arab OPEC."

[c] OPEC consists of Ecuador, Gabon, Indonesia, Iran, Nigeria, and Venezuela, as well as the Arab members.

Notes: • Beginning in October 1977, Strategic Petroleum Reserves are included. • Geographic coverage is the 50 States and the District of Columbia. • Annual averages may not equal average of quarters due to independent rounding.

Sources: • **Imports:** Tables 3.3a-3.3h. • **Exports:** 1973-1976: U.S. Department of the Interior, Bureau of Mines, *Mineral Industry Surveys.* 1977-1980: Energy Information Administration (EIA), *Energy Data Reports,* "Petroleum Statement, Annual." 1981-1989: EIA, *Petroleum Supply Annual.* 1990 forward: EIA, *Petroleum Supply Monthly.* • **Petroleum Products Supplied:** Table 3.1a.

## Figure 1.8 Cost of Fuels to End Users in Constant (1982-84) Dollars
(Dollars per Million Btu)




Source: Table 1.9.

## Table 1.9 Cost of Fuels to End Users in Constant (1982-84) Dollars

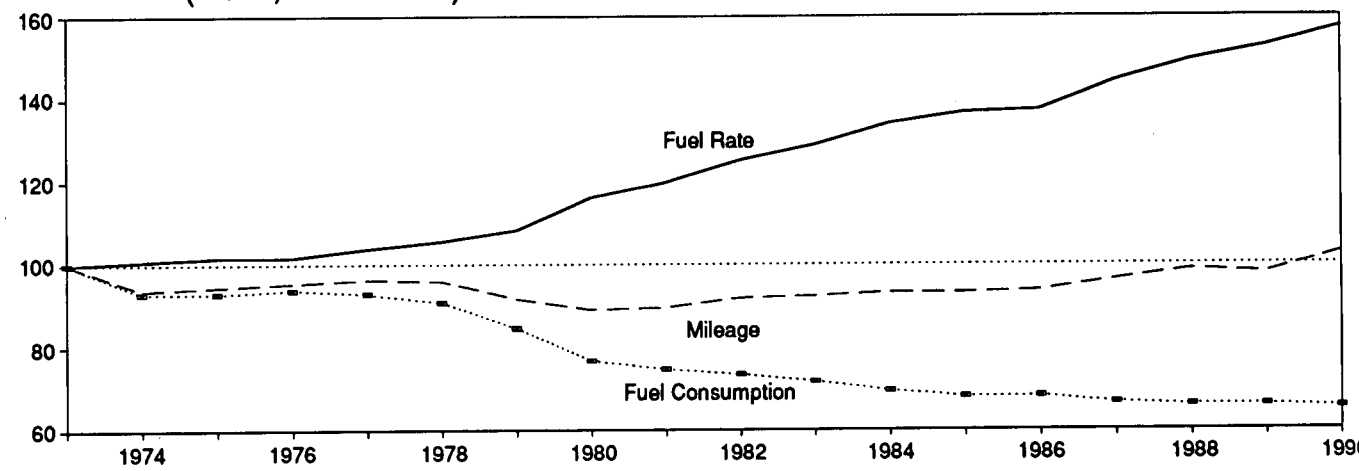
| | Motor Gasoline | | Residential Heating Oil | | Residential Natural Gas | | Residential Electricity | |
|---|---|---|---|---|---|---|---|---|
| | Cents per Gallon | Dollars per Million Btu | Cents per Gallon | Dollars per Million Btu | Cents per Million Cubic Feet | Dollars per Million Btu | Cents per Kilowatthour | Dollars per Million Btu |
| **1973 Average** | **NA** | **NA** | **NA** | **NA** | **290.5** | **2.85** | **5.6** | **16.50** |
| **1974 Average** | **NA** | **NA** | **NA** | **NA** | **290.1** | **2.83** | **6.3** | **18.43** |
| **1975 Average** | **NA** | **NA** | **NA** | **NA** | **317.8** | **3.12** | **6.5** | **19.07** |
| **1976 Average** | **NA** | **NA** | **NA** | **NA** | **348.0** | **3.41** | **6.5** | **19.06** |
| **1977 Average** | **NA** | **NA** | **NA** | **NA** | **387.8** | **3.81** | **6.8** | **19.83** |
| **1978 Average** | **100.0** | **8.00** | **75.2** | **5.42** | **392.6** | **3.86** | **6.6** | **19.33** |
| **1979 Average** | **121.5** | **9.71** | **97.0** | **6.99** | **410.5** | **4.03** | **6.3** | **18.57** |
| **1980 Average** | **148.2** | **11.85** | **118.2** | **8.52** | **446.6** | **4.36** | **6.6** | **19.21** |
| **1981 Average** | **148.8** | **11.90** | **131.4** | **9.47** | **471.9** | **4.60** | **6.8** | **19.99** |
| **1982 Average** | **132.7** | **10.61** | **120.2** | **8.67** | **535.8** | **5.22** | **7.2** | **20.96** |
| **1983 Average** | **123.0** | **9.83** | **108.2** | **7.80** | **608.4** | **5.90** | **7.2** | **21.19** |
| **1984 Average** | **115.3** | **9.22** | **105.0** | **7.57** | **589.0** | **5.72** | **7.2** | **21.16** |
| **1985 Average** | **111.2** | **8.89** | **97.9** | **7.06** | **568.8** | **5.52** | **7.2** | **21.25** |
| **1986 Average** | **84.9** | **6.79** | **76.3** | **5.50** | **531.9** | **5.17** | **6.8** | **19.79** |
| **1987 Average** | **84.2** | **6.74** | **70.7** | **5.10** | **487.7** | **4.73** | **6.5** | **19.09** |
| **1988 Average** | **81.4** | **6.51** | **68.7** | **4.96** | **462.4** | **4.49** | **6.3** | **18.58** |
| **1989** 1st Quarter | 78.7 | 6.29 | 70.5 | 5.08 | 444.5 | 4.32 | 5.9 | 17.34 |
| 2nd Quarter | 91.6 | 7.32 | 69.7 | 5.02 | 486.7 | 4.72 | 6.3 | 18.32 |
| 3rd Quarter | 88.2 | 7.05 | 65.5 | 4.72 | 555.7 | 5.40 | 6.5 | 18.96 |
| 4th Quarter | 83.3 | 6.66 | 74.5 | 5.37 | 448.0 | 4.35 | 6.0 | 17.61 |
| **Average** | **85.5** | **6.83** | **72.6** | **5.23** | **454.8** | **4.42** | **6.1** | **17.96** |
| **1990** 1st Quarter | 84.7 | 6.77 | 79.5 | 5.73 | 432.8 | 4.20 | 5.8 | 17.02 |
| 2nd Quarter | 86.4 | 6.91 | 69.7 | 5.02 | 467.9 | 4.54 | 6.1 | 17.98 |
| 3rd Quarter | 94.5 | 7.56 | 75.1 | 5.41 | 529.6 | 5.14 | 6.3 | 18.34 |
| 4th Quarter | 106.5 | 8.52 | 91.8 | 6.62 | 433.1 | 4.20 | 5.9 | 17.17 |
| **Average** | **93.1** | **7.44** | **81.3** | **5.86** | **441.5** | **4.29** | **6.0** | **17.49** |
| **1991** 1st Quarter | 90.0 | 7.19 | 81.5 | 5.88 | 412.5 | 4.00 | 5.6 | 16.52 |
| 2nd Quarter | 88.1 | 7.04 | R68.5 | R4.94 | R470.5 | R4.57 | 6.0 | 17.72 |

R=Revised data. NA=Not available.

Notes: • Fuel costs are calculated using the Urban Consumer Price Index (CPI) developed by the Bureau of Labor Statistics. See Note 6 at end of section. • Geographic coverage is the 50 States and the District of Columbia. • Annual averages may not equal average of quarters due to independent rounding.

Sources: • **Annual Data:** Annual prices in Tables 9.4 (All Types), 9.8c, 9.11, and 9.9 (Monthly Series), adjusted by the CPI. • **Quarterly Data:** Simple averages of monthly prices in Tables 9.4 (All Types), 9.8c, 9.11, and 9.9 (Monthly Series), adjusted by the CPI. • **CPI:** 1973-1989: *Economic Report of the President*, February 1991, Table B-60. 1990 forward: Council of Economic Advisers, *Economic Indicators*, July 1991, "Consumer Prices - All Urban Consumers." • **Conversion Factors:** Tables A2, A5, and A9.

## Figure 1.9 Passenger Car Efficiency
(Index, 1973 = 100)




Source: Table 1.10.

## Table 1.10 Passenger Car Efficiency

| | Mileage | | Fuel Consumption | | Fuel Rate | |
|---|---|---|---|---|---|---|
| | Miles per Car | Index 1973=100.0 | Gallons per Car | Index 1973=100.0 | Miles per Gallon | Index 1973=100.0 |
| 1973 | 10,256 | 100.0 | 771 | 100.0 | 13.30 | 100.0 |
| 1974 | 9,606 | 93.7 | 716 | 92.9 | 13.42 | 100.9 |
| 1975 | 9,690 | 94.5 | 716 | 92.9 | 13.52 | 101.7 |
| 1976 | 9,785 | 95.4 | 723 | 93.8 | 13.53 | 101.7 |
| 1977 | 9,879 | 96.3 | 716 | 92.9 | 13.80 | 103.8 |
| 1978 | 9,835 | 95.9 | 701 | 90.9 | 14.04 | 105.6 |
| 1979 | 9,403 | 91.7 | 653 | 84.7 | 14.41 | 108.3 |
| 1980 | 9,141 | 89.1 | 591 | 76.7 | 15.46 | 116.2 |
| 1981 | 9,186 | 89.6 | 576 | 74.7 | 15.94 | 119.8 |
| 1982 | 9,428 | 91.9 | 566 | 73.4 | 16.65 | 125.2 |
| 1983 | 9,475 | 92.4 | 553 | 71.7 | 17.14 | 128.9 |
| 1984 | 9,558 | 93.2 | 536 | 69.5 | 17.83 | 134.1 |
| 1985 | 9,560 | 93.2 | 525 | 68.1 | 18.20 | 136.8 |
| 1986 | 9,608 | 93.7 | 526 | 68.2 | 18.27 | 137.4 |
| 1987 | 9,878 | 96.3 | 514 | 66.7 | 19.20 | 144.4 |
| 1988 | 10,121 | 98.7 | 509 | 66.0 | 19.87 | 149.4 |
| 1989 | R10,332 | R100.7 | R509 | R66.0 | R20.31 | R152.7 |
| 1990[a] | 10,556 | 102.9 | 505 | 65.5 | 20.92 | 157.3 |

[a] Preliminary data.
R=Revised data.
Note: Geographic coverage is the 50 States and the District of Columbia.
Sources: Indices are prepared from statistics published by the U.S. Department of Transportation, Federal Highway Administration, Federal Highway Statistics Division. 1973-1985: *Highway Statistics Summary to 1985*, Table VM-201A; 1986 forward: *Highway Statistics*, Table VM-1.

# Table 1.11 Population-Weighted Heating Degree-Days

| Census Divisions | September 1 through September 30 | | | | | Cumulative July 1 through September 30 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Percent Change | | | | | Percent Change | |
| | Normal[a] | 1990 | 1991 | Normal to 1991 | 1990 to 1991 | Normal[a] | 1990 | 1991 | Normal to 1991 | 1990 to 1991 |
| **New England** | | | | | | | | | | |
| Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont | 151 | 148 | 179 | 18.5 | 20.9 | 194 | 185 | 211 | 8.8 | 14.1 |
| **Middle Atlantic** | | | | | | | | | | |
| New Jersey, New York, Pennsylvania | 105 | 104 | 106 | 1.0 | 1.9 | 118 | 113 | 107 | -9.3 | -5.3 |
| **East North Central** | | | | | | | | | | |
| Illinois, Indiana, Michigan, Ohio, Wisconsin | 105 | 117 | 157 | 49.5 | 34.2 | 114 | 148 | 172 | 50.9 | 16.2 |
| **West North Central** | | | | | | | | | | |
| Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota | 119 | 107 | 163 | 37.0 | 52.3 | 153 | 154 | 198 | 29.4 | 28.6 |
| **South Atlantic** | | | | | | | | | | |
| Delaware, Florida, Georgia, Maryland and the District of Columbia, North Carolina, South Carolina, Virginia, West Virginia | 22 | 31 | 32 | ([c]) | ([c]) | 22 | 33 | 32 | ([c]) | ([c]) |
| **East South Central** | | | | | | | | | | |
| Alabama, Kentucky, Mississippi, Tennessee | 26 | 22 | 36 | ([c]) | ([c]) | 26 | 22 | 36 | ([c]) | ([c]) |
| **West South Central** | | | | | | | | | | |
| Arkansas, Louisiana, Oklahoma, Texas | 5 | 4 | 20 | ([c]) | ([c]) | 5 | 5 | 20 | ([c]) | ([c]) |
| **Mountain** | | | | | | | | | | |
| Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming | 132 | 78 | 131 | -.8 | 67.9 | 185 | 140 | 173 | -6.5 | 23.6 |
| **Pacific** | | | | | | | | | | |
| California, Oregon, Washington | 40 | 21 | 27 | ([c]) | ([c]) | 87 | 42 | 54 | ([c]) | ([c]) |
| **U.S. Average[b]** | **72** | **69** | **89** | ([c]) | ([c]) | **90** | **88** | **102** | ([c]) | ([c]) |

[a] Normal is based on calculations of data from 1951 through 1980.
[b] Excludes Alaska and Hawaii
[c] Percent change not meaningful: normal less than 100 or ratio incalculable.
Source: See Note 7 at end of section.

# Table 1.12 Population-Weighted Cooling Degree-Days

| Census Divisions | September 1 through September 30 | | | Percent Change | | Cumulative January 1 through September 30 | | | Percent Change | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Normal[a] | 1990 | 1991 | Normal to 1991 | 1990 to 1991 | Normal[a] | 1990 | 1991 | Normal to 1991 | 1990 to 1991 |
| **New England** | | | | | | | | | | |
| Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont | 26 | 37 | 42 | 61.5 | 13.5 | 424 | 486 | 596 | 40.6 | 22.6 |
| **Middle Atlantic** | | | | | | | | | | |
| New Jersey, New York, Pennsylvania | 87 | 74 | 91 | 4.6 | 23.0 | 712 | 719 | 989 | 38.9 | 37.6 |
| **East North Central** | | | | | | | | | | |
| Illinois, Indiana, Michigan, Ohio, Wisconsin | 85 | 109 | 118 | 38.8 | 8.3 | 752 | 727 | 1,067 | 41.9 | 46.8 |
| **West North Central** | | | | | | | | | | |
| Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota | 97 | 166 | 132 | 36.1 | -20.5 | 980 | 998 | 1,179 | 20.3 | 18.1 |
| **South Atlantic** | | | | | | | | | | |
| Delaware, Florida, Georgia, Maryland and the District of Columbia, North Carolina, South Carolina, Virginia, West Virginia | 261 | 275 | 277 | 6.1 | .7 | 1,692 | 1,881 | 2,012 | 18.9 | 7.0 |
| **East South Central** | | | | | | | | | | |
| Alabama, Kentucky, Mississippi, Tennessee | 230 | 289 | 258 | 12.2 | -10.7 | 1,541 | 1,654 | 1,768 | 14.7 | 6.9 |
| **West South Central** | | | | | | | | | | |
| Arkansas, Louisiana, Oklahoma, Texas | 354 | 409 | 315 | -11.0 | -23.0 | 2,297 | 2,460 | 2,359 | 2.7 | -4.1 |
| **Mountain** | | | | | | | | | | |
| Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming | 138 | 180 | 147 | 6.5 | -18.3 | 1,008 | 1,144 | 1,033 | 2.5 | -9.7 |
| **Pacific** | | | | | | | | | | |
| California, Oregon, Washington | 112 | 120 | 134 | 19.6 | 11.7 | 580 | 630 | 497 | -14.3 | -21.1 |
| **U.S. Average[b]** | **156** | **179** | **170** | **9.0** | **-5.0** | **1,103** | **1,174** | **1,295** | **17.4** | **10.3** |

[a] Normal is based on calculations of data from 1951 through 1980.
[b] Excludes Alaska and Hawaii
Source: See Note 7 at end of section.

# Energy Summary Notes

**1. Energy Production:** Production of energy includes production of coal, crude oil and lease condensate, natural gas plant liquids, natural gas (dry), electric utility and industrial production of hydroelectric power, and electricity generated from nuclear power. Production also includes electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy but excludes other energy obtained from those sources because consistent historical data are not available. Approximate heat contents (Btu values) are derived by using the conversion factors provided in the Appendix.

**2. Energy Consumption:** Consumption of energy includes consumption of coal, natural gas (including supplemental gaseous fuels), petroleum products supplied, electric utility and industrial production of hydroelectric power, net imports of electricity (assumed to be hydroelectricity), net imports of coal coke, and electricity generated from nuclear power. Consumption also includes electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy but excludes other energy obtained from those sources because consistent historical data are not available. Approximate heat contents (Btu values) are derived by using the conversion factors provided in the Appendix.

**3. Energy Imports:** Energy imports include imports of coal, crude oil (including crude oil imported for the Strategic Petroleum Reserve), petroleum products, natural gas, electricity (assumed to be hydroelectricity), and coal coke. Approximate heat contents (Btu values) are derived by using the conversion factors provided in the Appendix. For further information on electricity, see "Note for imports and exports of electricity" under Note 8 of the Notes and Sources for the Energy Consumption Section.

**4. Energy Exports:** Energy exports include coal, crude oil, petroleum products, natural gas, electricity produced from hydroelectric power, and coal coke. Approximate heat contents (Btu values) are derived by using the conversion factors provided in the Appendix. For more information on electricity, see "Note for imports and exports of electricity" under Note 8 of the Notes and Sources for the Energy Consumption Section.

**5. Merchandise Trade Value:** Import data presented are based on the customs value. That value does not include insurance and freight and is consequently lower than the cost, insurance, and freight (CIF) value, which is also reported by the Bureau of the Census. All export data, and import data prior to 1981, are on a free alongside ship (f.a.s.) basis.

"Balance" is exports minus imports; a positive balance indicates a surplus trade value and a negative balance indicates a deficit trade value. "Energy" includes mineral fuels, lubricants, and related material. "Non-Energy Balance" and "Total Merchandise" include foreign exports (i.e., reexports) and nonmonetary gold and Department of Defense Grant-Aid shipments. The "Non-Energy Balance" is calculated by subtracting the "Energy" from the "Total Merchandise Balance."

"Imports" consist of government and nongovernment shipments of merchandise into the 50 States, the District of Columbia, Puerto Rico, the U.S. Virgin Islands, and the U.S. Foreign Trade Zones. They reflect the total arrival from foreign countries of merchandise that immediately entered consumption channels, warehouses, the Foreign Trade Zones, or the Strategic Petroleum Reserve. They exclude shipments between the United States, Puerto Rico, and U.S. possessions, shipments to U.S. Armed Forces and diplomatic missions abroad for their own use, U.S. goods returned to the United States by its Armed Forces, and in-transit shipments.

**6. The Consumer Price Index:** The values for the Consumer Price Index, All Urban Consumers, All Items, 1982-84=100, are as follows:

| | | | | |
|---|---|---|---|---|
| 1973 | 44.4 | 1989: | 1st Quarter | 121.7 |
| 1974 | 49.3 | | 2nd Quarter | 123.7 |
| 1975 | 53.8 | | 3rd Quarter | 124.7 |
| 1976 | 56.9 | | 4th Quarter | 125.9 |
| 1977 | 60.6 | | Year | 124.0 |
| 1978 | 65.2 | 1990: | 1st Quarter | 128.0 |
| 1979 | 72.6 | | 2nd Quarter | 129.3 |
| 1980 | 82.4 | | 3rd Quarter | 131.6 |
| 1981 | 90.9 | | 4th Quarter | 133.7 |
| 1982 | 96.5 | | Year | 130.7 |
| 1983 | 99.6 | 1991: | 1st Quarter | 134.8 |
| 1984 | 103.9 | | 2nd Quarter | 135.6 |
| 1985 | 107.6 | | | |
| 1986 | 109.6 | | | |
| 1987 | 113.6 | | | |
| 1988 | 118.3 | | | |

**7. Degree-Days:** Degree-days are relative measurements of outdoor air temperature. Cooling degree-days are defined as deviations of the mean daily temperature at a sampling station above a base temperature equal to 65 °F by convention. Heating degree-days are deviations of the mean daily temperature below 65 °F. For example, if a weather station recorded a mean daily temperature of 78 °F, cooling degree-days for that station would be 13 (and heating degree-days, 0). A weather station recording a mean daily temperature of 40 °F would report 25 heating degree-days (and 0 cooling degree-days).

There are several degree-day databases maintained by the National Oceanic and Atmospheric Administration. The information published in the *Monthly Energy Review (MER)* is developed by the National Weather Service Climate Analysis Center, Camp Springs, MD. The data are available weekly with monthly summaries

and are based on mean daily temperatures recorded at about 200 major weather stations around the country. The temperature information recorded at those weather stations is used to calculate statewide degree-day averages based on population. The State figures are then aggregated into Census Divisions and into the national average. The population weights currently used represent resident State population data estimated for 1980 by the U.S. Department of Commerce, Bureau of the Census. The data shown in the *MER* are available sooner than the Historical Climatology Series 5-1 and 5-2 developed by the National Climatic Center, Asheville, NC, which compiles data from some 8,000 weather stations.

# Section 2. Energy Consumption

U.S. total energy consumption in July 1991 was 6.8 quadrillion Btu. Petroleum products accounted for 42 percent of the energy consumed in July 1991, while coal accounted for 25 percent and natural gas accounted for 19 percent[1].

Residential and commercial sector consumption was 2.4 quadrillion Btu in July 1991, up 3 percent from the July 1990 level. The sector accounted for 35 percent of July 1991 total consumption, about the same share as in July 1990.

Industrial sector consumption was 2.5 quadrillion Btu in July 1991, down 1 percent from the July 1990 level. The industrial sector accounted for 36 percent of July 1991 total consumption, down 1 percentage point from its 37 percent share in July 1990.

Transportation sector consumption of energy was 1.9 quadrillion Btu in July 1991, up slightly from the July 1990 level. The sector accounted for 29 percent of July 1991 total consumption, about the same share as in July 1990.

Electric utility consumption of energy totaled 2.9 quadrillion Btu in July 1991, up 3 percent from the July 1990 level. Coal contributed 52 percent of the energy consumed by electric utilities in July 1991, while nuclear electric power contributed 22 percent; natural gas 12 percent; hydroelectric 9 percent; petroleum, 4 percent; and wood, waste, geothermal, wind, photovoltaic, and solar thermal energy, about 1 percent.

## Table 2.1 Energy Consumption Summary for July 1991

(Quadrillion Btu)

| Energy Source | End-Use Sectors | | | | Electric Utilities | Total |
|---|---|---|---|---|---|---|
| | Residential and Commercial | Industrial | Transportation | Total[a] | | |
| Coal | 0.011 | 0.204 | ([b]) | 0.221 | 1.505 | 1.726 |
| Natural Gas[c] | .261 | .686 | .043 | .990 | .341 | 1.331 |
| Petroleum | .168 | .650 | 1.900 | 2.719 | .118 | 2.837 |
| Nuclear Electric Power | – | – | – | – | .651 | .651 |
| Hydroelectric Power | – | .003 | – | .003 | .268 | .271 |
| Net Imports of Coal Coke | – | .003 | – | .003 | – | .003 |
| Other[d] | – | – | – | – | .016 | .016 |
| **Primary Consumption** | **.440** | **1.546** | **1.943** | **3.936** | **2.899** | **6.835** |
| Electricity | .597 | .277 | .001 | .876 | – | – |
| **Net Consumption** | **1.037** | **1.823** | **1.945** | **4.811** | – | – |
| Electrical System Energy Losses | 1.379 | .641 | .003 | 2.023 | – | – |
| **Total Consumption[e]** | **2.417** | **2.464** | **1.948** | **6.835** | – | – |

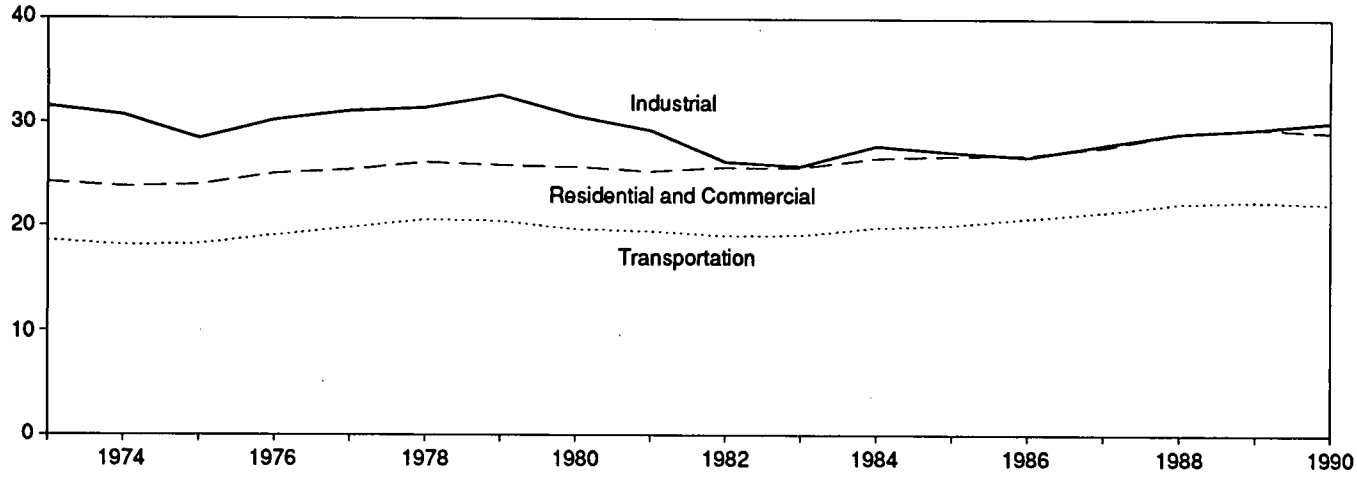
[a] Totals for coal and natural gas may not equal sum of sectors due to the use of sector-specific conversion factors.
[b] Small amounts of coal consumed for transportation are reported as industrial sector consumption.
[c] Includes supplemental gaseous fuels. Transportation sector is pipeline fuel only.
[d] Other is electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy.
[e] Excludes wood, waste, geothermal, wind, photovoltaic, and solar thermal energy, except for small amounts used by electric utilities to generate electricity for distribution.
– =Not applicable.
Note: Totals may not equal sum of components due to independent rounding.
Additional Notes and Sources: See Tables 2.2-2.6 and end of section.

[1]Percentage changes are based on numbers in the following tables.

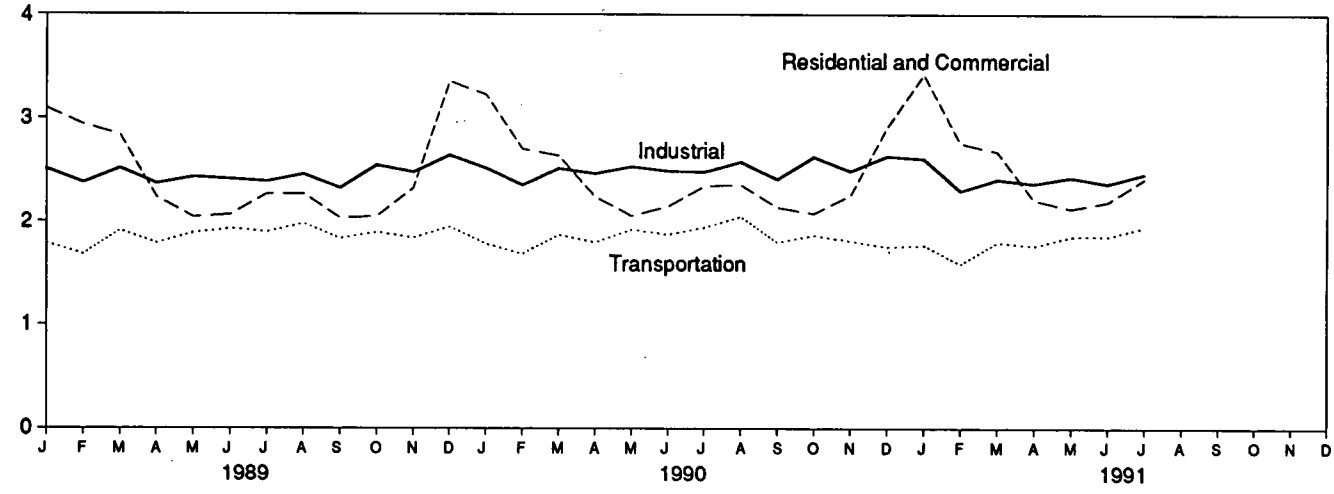
## Figure 2.1 Energy Consumption by End-Use Sector

(Quadrillion Btu)

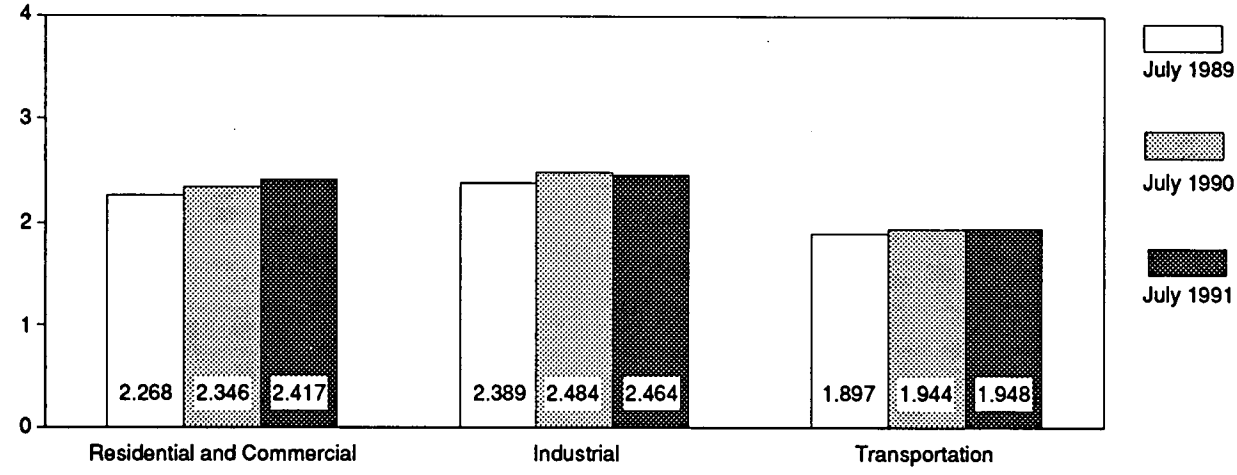
### Consumption by End-Use Sector, 1973-1990




### Consumption by End-Use Sector, Monthly




### Consumption by End-Use Sector, July




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 2.2.

# Table 2.2 Energy Consumption by End-Use Sector

(Quadrillion Btu)

| | Residential and Commercial | | Industrial | | Transportation | | | |
|---|---|---|---|---|---|---|---|---|
| | Net | Total | Net | Total | Net | Total | Net | Total |
| **1973 Total** | **15.766** | **24.143** | **25.917** | **31.528** | **18.584** | **18.605** | **60.274** | **74.282** |
| **1974 Total** | **15.246** | **23.724** | **24.994** | **30.696** | **18.095** | **18.117** | **58.341** | **72.543** |
| **1975 Total** | **15.200** | **23.900** | **22.737** | **28.401** | **18.219** | **18.244** | **56.157** | **70.546** |
| **1976 Total** | **15.997** | **25.020** | **24.038** | **30.234** | **19.076** | **19.101** | **59.119** | **74.362** |
| **1977 Total** | **15.828** | **25.387** | **24.593** | **31.075** | **19.794** | **19.819** | **60.223** | **76.288** |
| **1978 Total** | **16.023** | **26.088** | **24.637** | **31.388** | **20.589** | **20.611** | **61.251** | **78.089** |
| **1979 Total** | **15.709** | **25.809** | **25.679** | **32.615** | **20.447** | **20.472** | **61.836** | **78.898** |
| **1980 Total** | **15.075** | **25.653** | **23.854** | **30.609** | **19.669** | **19.695** | **58.597** | **75.955** |
| **1981 Total** | **14.541** | **25.243** | **22.533** | **29.238** | **19.480** | **19.507** | **56.556** | **73.990** |
| **1982 Total** | **14.629** | **25.630** | **20.020** | **26.144** | **19.043** | **19.069** | **53.697** | **70.848** |
| **1983 Total** | **14.395** | **25.630** | **19.401** | **25.756** | **19.109** | **19.135** | **52.907** | **70.524** |
| **1984 Total** | **15.014** | **26.501** | **21.064** | **27.727** | **19.843** | **19.871** | **55.923** | **74.101** |
| **1985 Total** | **14.889** | **26.732** | **20.439** | **27.120** | **20.066** | **20.097** | **55.391** | **73.945** |
| **1986 Total** | **14.812** | **26.834** | **20.135** | **26.642** | **20.728** | **20.758** | **55.678** | **74.237** |
| **1987 Total** | **15.177** | **27.621** | **21.175** | **27.870** | **21.328** | **21.357** | **57.678** | **76.844** |
| **1988 Total** | **16.097** | **29.000** | **22.111** | **29.007** | **22.155** | **22.186** | **60.366** | **80.195** |
| **1989** January | 1.971 | 3.094 | 1.954 | 2.510 | 1.784 | 1.786 | 5.710 | 7.391 |
| February | 1.895 | 2.936 | 1.839 | 2.377 | 1.678 | 1.681 | 5.413 | 6.995 |
| March | 1.768 | 2.837 | 1.957 | 2.517 | 1.910 | 1.912 | 5.633 | 7.265 |
| April | 1.304 | 2.233 | 1.819 | 2.368 | 1.786 | 1.788 | 4.905 | 6.386 |
| May | 1.037 | 2.042 | 1.812 | 2.433 | 1.887 | 1.890 | 4.734 | 6.363 |
| June | .955 | 2.068 | 1.791 | 2.412 | 1.925 | 1.928 | 4.673 | 6.409 |
| July | .973 | 2.268 | 1.754 | 2.389 | 1.894 | 1.897 | 4.623 | 6.556 |
| August | .997 | 2.268 | 1.821 | 2.458 | 1.977 | 1.980 | 4.800 | 6.710 |
| September | .980 | 2.033 | 1.771 | 2.324 | 1.831 | 1.833 | 4.583 | 6.191 |
| October | 1.061 | 2.049 | 1.951 | 2.546 | 1.893 | 1.895 | 4.903 | 6.488 |
| November | 1.336 | 2.323 | 1.890 | 2.479 | 1.840 | 1.842 | 5.065 | 6.644 |
| December | 2.074 | 3.352 | 2.008 | 2.641 | 1.946 | 1.949 | 6.032 | 7.946 |
| **Total** | **16.350** | **29.500** | **22.368** | **29.457** | **22.350** | **22.380** | **61.075** | **81.345** |
| **1990** January | R2.061 | R3.225 | R1.994 | R2.518 | 1.779 | 1.781 | R5.835 | R7.525 |
| February | R1.716 | R2.702 | R1.828 | R2.354 | 1.682 | 1.685 | R5.226 | R6.741 |
| March | 1.593 | R2.638 | R1.935 | R2.516 | 1.869 | 1.871 | R5.395 | R7.024 |
| April | R1.294 | 2.243 | 1.910 | R2.467 | 1.797 | 1.799 | R4.999 | R6.507 |
| May | 1.041 | 2.057 | R1.921 | R2.535 | 1.918 | 1.921 | R4.877 | R6.510 |
| June | .963 | 2.149 | R1.844 | R2.492 | 1.872 | 1.875 | R4.680 | R6.517 |
| July | 1.017 | 2.346 | R1.854 | R2.484 | 1.941 | 1.944 | R4.814 | R6.776 |
| August | 1.037 | 2.360 | R1.923 | R2.580 | 2.048 | 2.051 | R5.010 | R6.993 |
| September | 1.017 | 2.140 | R1.854 | R2.413 | 1.797 | 1.800 | R4.669 | R6.354 |
| October | R1.056 | 2.080 | R2.034 | R2.628 | 1.863 | 1.866 | R4.952 | R6.573 |
| November | 1.290 | 2.256 | R1.928 | R2.492 | 1.811 | 1.813 | R5.026 | R6.559 |
| December | R1.749 | R2.910 | R2.028 | R2.635 | 1.752 | 1.755 | 5.531 | 7.301 |
| **Total** | **R15.834** | **R29.109** | **R23.053** | **R30.112** | **22.129** | **22.160** | **R61.016** | **R81.382** |
| **1991** January | 2.179 | 3.423 | R2.039 | R2.610 | 1.767 | 1.770 | R5.988 | R7.807 |
| February | 1.777 | 2.758 | R1.805 | R2.301 | 1.589 | 1.592 | R5.173 | R6.652 |
| March | 1.623 | 2.678 | R1.848 | R2.411 | 1.796 | 1.799 | R5.268 | R6.888 |
| April | 1.257 | 2.212 | R1.821 | R2.372 | 1.763 | 1.765 | R4.840 | R6.348 |
| May | R1.030 | R2.128 | R1.790 | R2.431 | 1.852 | 1.855 | R4.673 | R6.415 |
| June | R.986 | R2.192 | R1.756 | R2.371 | 1.855 | 1.858 | R4.601 | R6.425 |
| July | 1.037 | 2.417 | 1.823 | 2.464 | 1.945 | 1.948 | 4.811 | 6.835 |
| **7-Month Total** | **9.889** | **17.807** | **12.881** | **16.960** | **12.567** | **12.586** | **35.354** | **47.370** |
| **1990 7-Month Total** | **9.685** | **17.361** | **13.285** | **17.366** | **12.858** | **12.876** | **35.826** | **47.601** |
| **1989 7-Month Total** | **9.902** | **17.478** | **12.926** | **17.006** | **12.864** | **12.881** | **35.692** | **47.365** |

R=Revised data.

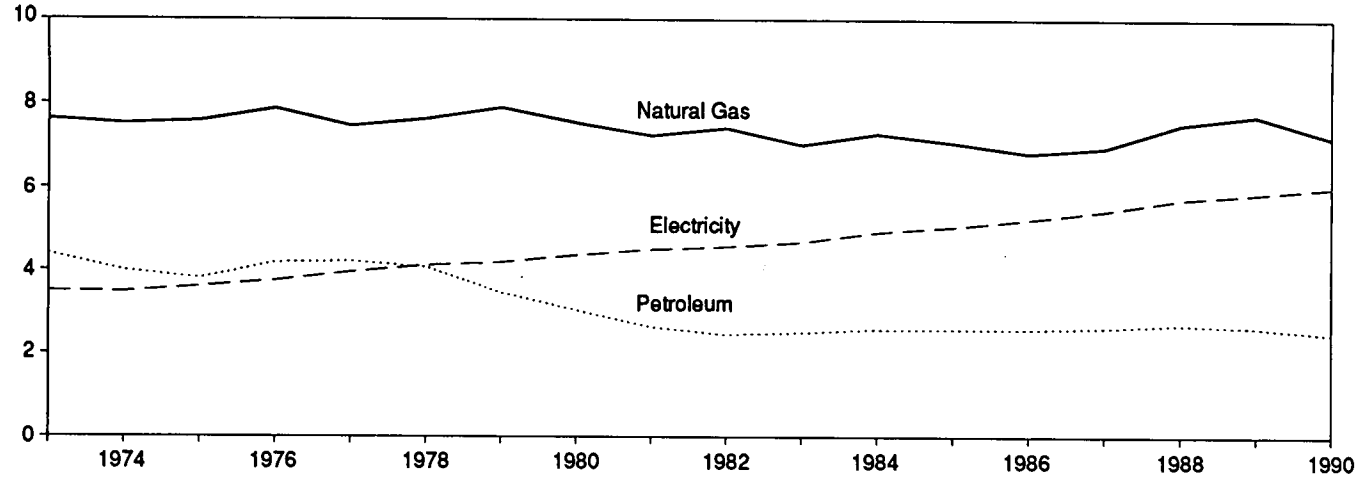
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding and the use of sector-specific conversion factors for natural gas and coal.

Additional Notes and Sources: See end of section.

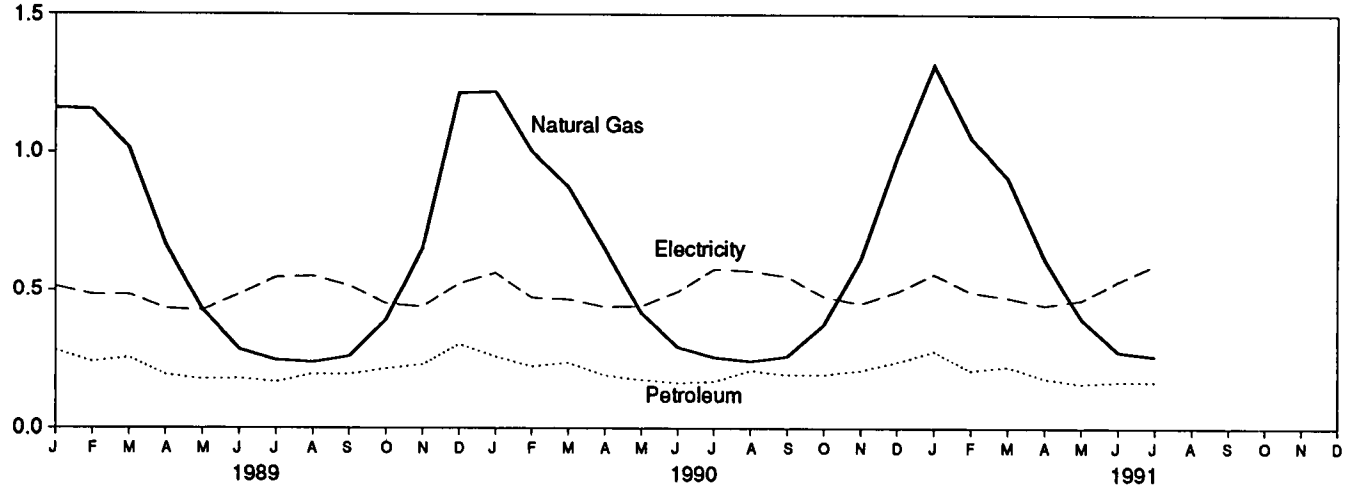
## Figure 2.2 Residential and Commercial Energy Consumption

(Quadrillion Btu)

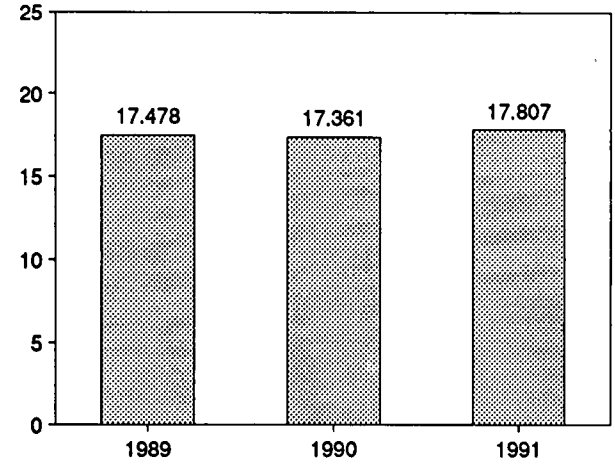
### Consumption by Major Sources, 1973-1990



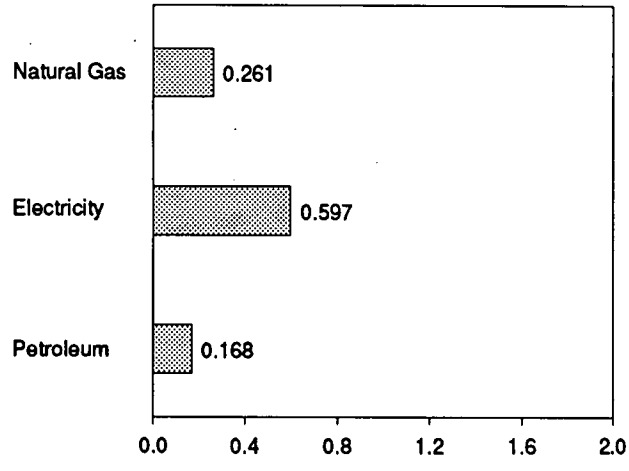

### Consumption by Major Sources, Monthly




### Total Consumption, January-July




### Consumption by Major Sources, July 1991




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 2.3.

# Table 2.3 Residential and Commercial Energy Consumption

(Quadrillion Btu)

| | Coal | Natural Gas[a] | Petroleum | Primary Consumption | Electricity | Net Consumption | Electrical System Energy Losses | Total Consumption[b] |
|---|---|---|---|---|---|---|---|---|
| **1973 Total** | **0.254** | **7.626** | **4.391** | **12.270** | **3.495** | **15.766** | **8.377** | **24.143** |
| **1974 Total** | **.257** | **7.518** | **3.996** | **11.771** | **3.475** | **15.246** | **8.478** | **23.724** |
| **1975 Total** | **.209** | **7.581** | **3.805** | **11.595** | **3.604** | **15.200** | **8.700** | **23.900** |
| **1976 Total** | **.203** | **7.866** | **4.181** | **12.250** | **3.747** | **15.997** | **9.023** | **25.020** |
| **1977 Total** | **.205** | **7.461** | **4.206** | **11.873** | **3.955** | **15.828** | **9.559** | **25.387** |
| **1978 Total** | **.214** | **7.624** | **4.070** | **11.908** | **4.116** | **16.023** | **10.065** | **26.088** |
| **1979 Total** | **.187** | **7.891** | **3.448** | **11.525** | **4.184** | **15.709** | **10.101** | **25.809** |
| **1980 Total** | **.145** | **7.540** | **3.035** | **10.721** | **4.355** | **15.075** | **10.578** | **25.653** |
| **1981 Total** | **.167** | **7.243** | **2.634** | **10.043** | **4.497** | **14.541** | **10.703** | **25.243** |
| **1982 Total** | **.187** | **7.427** | **2.449** | **10.063** | **4.566** | **14.629** | **11.001** | **25.630** |
| **1983 Total** | **.192** | **7.024** | **2.498** | **9.715** | **4.680** | **14.395** | **11.235** | **25.630** |
| **1984 Total** | **.209** | **7.292** | **2.585** | **10.086** | **4.928** | **15.014** | **11.487** | **26.501** |
| **1985 Total** | **.176** | **7.079** | **2.573** | **9.827** | **5.061** | **14.889** | **11.843** | **26.732** |
| **1986 Total** | **.176** | **6.825** | **2.576** | **9.577** | **5.235** | **14.812** | **12.022** | **26.834** |
| **1987 Total** | **.162** | **6.954** | **2.618** | **9.734** | **5.443** | **15.177** | **12.443** | **27.621** |
| **1988 Total** | **.168** | **7.513** | **2.693** | **10.373** | **5.724** | **16.097** | **12.903** | **29.000** |
| **1989** January | .015 | 1.160 | .281 | 1.456 | .514 | 1.971 | 1.123 | 3.094 |
| February | .016 | 1.156 | .239 | 1.412 | .483 | 1.895 | 1.042 | 2.936 |
| March | .012 | 1.017 | .255 | 1.284 | .484 | 1.768 | 1.069 | 2.837 |
| April | .012 | .667 | .192 | .872 | .432 | 1.304 | .929 | 2.233 |
| May | .008 | .428 | .176 | .612 | .425 | 1.037 | 1.005 | 2.042 |
| June | .007 | .285 | .179 | .470 | .485 | .955 | 1.112 | 2.068 |
| July | .012 | .246 | .166 | .424 | .549 | .973 | 1.295 | 2.268 |
| August | .011 | .238 | .195 | .444 | .553 | .997 | 1.271 | 2.268 |
| September | .007 | .260 | .194 | .462 | .518 | .980 | 1.053 | 2.033 |
| October | .005 | .392 | .215 | .611 | .450 | 1.061 | .988 | 2.049 |
| November | .013 | .655 | .229 | .897 | .439 | 1.336 | .988 | 2.323 |
| December | .028 | 1.216 | .303 | 1.548 | .526 | 2.074 | 1.278 | 3.352 |
| **Total** | **.146** | **7.720** | **2.625** | **10.491** | **5.859** | **16.350** | **13.150** | **29.500** |
| **1990** January | .017 | R1.220 | .259 | R1.497 | .565 | R2.061 | 1.164 | R3.225 |
| February | .016 | R1.004 | .223 | 1.243 | .473 | R1.716 | .986 | R2.702 |
| March | .013 | R.876 | .236 | R1.125 | .467 | 1.593 | 1.046 | R2.638 |
| April | .013 | .653 | .190 | .856 | .439 | R1.294 | .948 | 2.243 |
| May | .009 | .417 | .175 | .600 | .441 | 1.041 | 1.016 | 2.057 |
| June | .009 | .293 | .163 | .465 | .497 | .963 | 1.186 | 2.149 |
| July | .013 | .257 | .168 | .437 | .580 | 1.017 | 1.329 | 2.346 |
| August | .012 | .243 | .209 | .464 | .573 | 1.037 | 1.323 | 2.360 |
| September | .010 | R.260 | .193 | .463 | .553 | 1.017 | 1.123 | 2.140 |
| October | .010 | .374 | .194 | .578 | .479 | R1.056 | 1.024 | 2.080 |
| November | .015 | .615 | .209 | R.838 | .451 | 1.290 | .966 | 2.256 |
| December | .025 | R.987 | .240 | 1.252 | .498 | R1.749 | 1.161 | R2.910 |
| **Total** | **.159** | **R7.200** | **2.459** | **R9.819** | **6.015** | **R15.834** | **13.275** | **R29.109** |
| **1991** January | .020 | 1.318 | .278 | R1.617 | .562 | 2.179 | 1.244 | 3.423 |
| February | .014 | 1.058 | .209 | 1.281 | .496 | 1.777 | .981 | 2.758 |
| March | .013 | .912 | .223 | 1.148 | .475 | 1.623 | 1.055 | 2.678 |
| April | .013 | .619 | .180 | .812 | .446 | 1.257 | .954 | 2.212 |
| May | .007 | R.396 | .161 | R.564 | .466 | R1.030 | 1.098 | R2.128 |
| June | .005 | R.276 | .168 | R.449 | .537 | R.986 | 1.206 | R2.192 |
| July | .011 | .261 | .168 | .440 | .597 | 1.037 | 1.379 | 2.417 |
| **7-Month Total** | **.084** | **4.841** | **1.386** | **6.311** | **3.578** | **9.889** | **7.918** | **17.807** |
| **1990 7-Month Total** | **.088** | **4.721** | **1.415** | **6.223** | **3.462** | **9.685** | **7.676** | **17.361** |
| **1989 7-Month Total** | **.082** | **4.958** | **1.489** | **6.529** | **3.373** | **9.902** | **7.575** | **17.478** |

[a] Includes supplemental gaseous fuels.

[b] Excludes wood, waste, geothermal, wind, photovoltaic, and solar thermal energy, except for small amounts used by electric utilities to generate electricity for distribution.

R=Revised data.

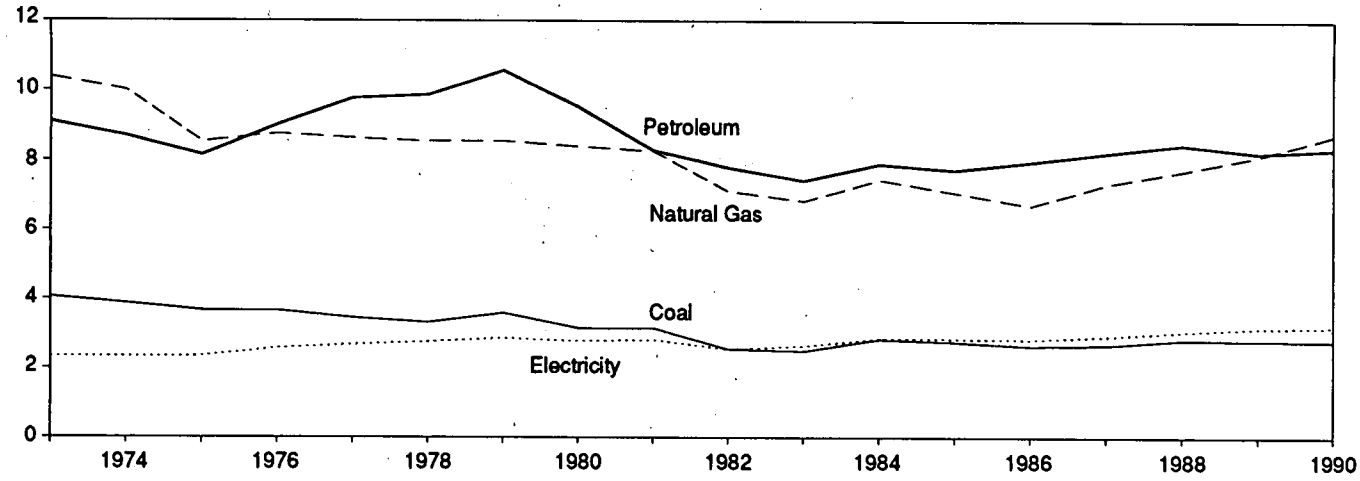
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

Additional Notes and Sources: See end of section.

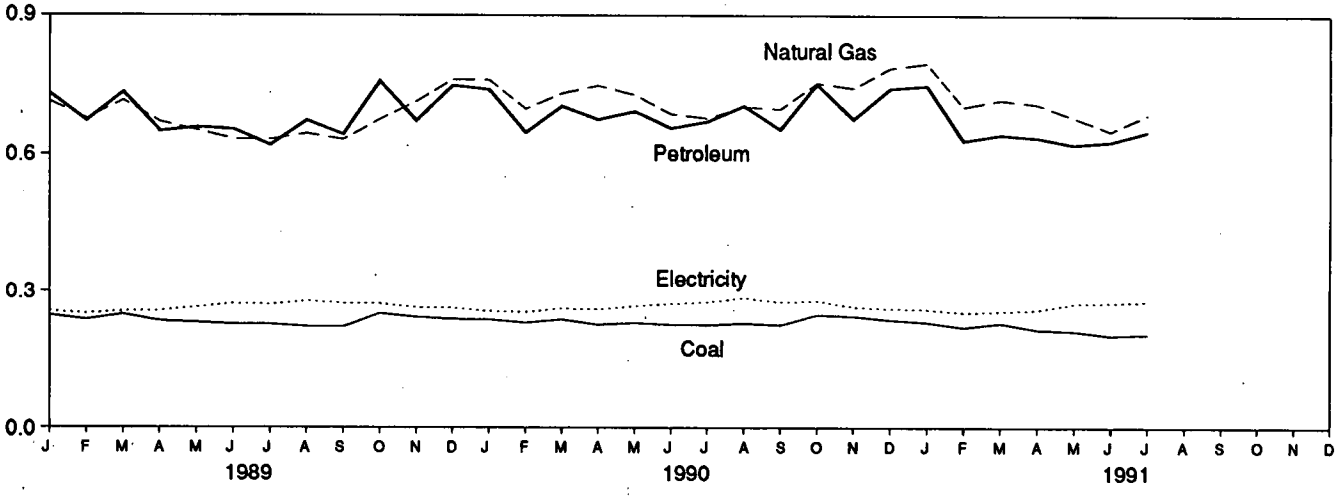
## Figure 2.3 Industrial Energy Consumption

(Quadrillion Btu)

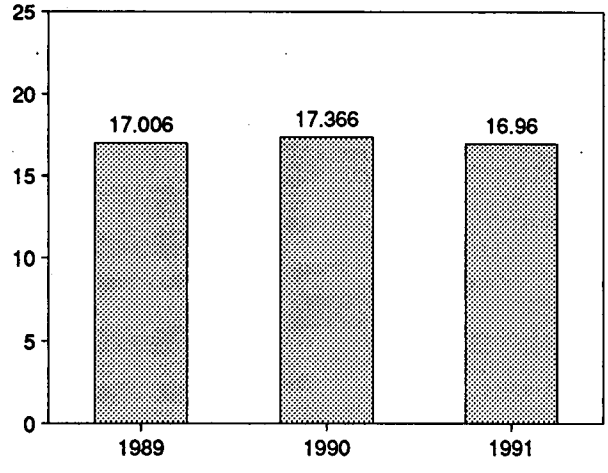
### Consumption by Major Sources, 1973-1990



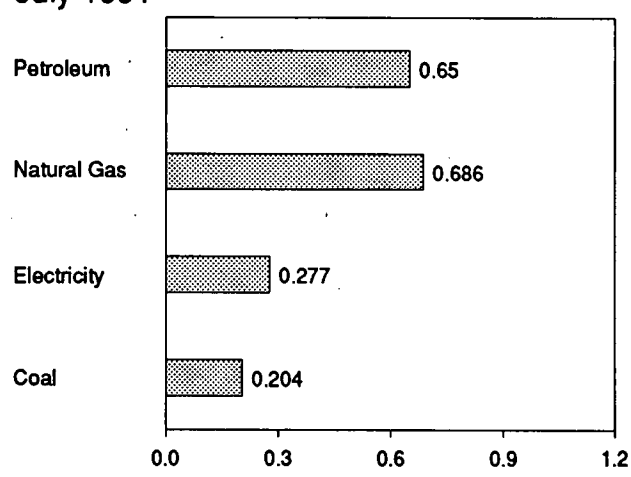

### Consumption by Major Sources, Monthly




### Total Consumption, January-July




### Consumption by Major Sources, July 1991




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 2.4.

# Table 2.4 Industrial Energy Consumption

(Quadrillion Btu)

| | Coal | Natural Gas[a] | Petroleum | Hydro-electric Power | Net Imports of Coal Coke | Primary Consumption | Electricity | Net Consumption | Electrical System Energy Losses | Total Consumption[b] |
|---|---|---|---|---|---|---|---|---|---|---|
| **1973 Total** | **4.057** | **10.388** | **9.104** | **0.035** | **-0.007** | **23.576** | **2.341** | **25.917** | **5.611** | **31.528** |
| **1974 Total** | **3.870** | **10.004** | **8.694** | **.033** | **.056** | **22.657** | **2.337** | **24.994** | **5.701** | **30.696** |
| **1975 Total** | **3.667** | **8.532** | **8.146** | **.032** | **.014** | **20.391** | **2.346** | **22.737** | **5.664** | **28.401** |
| **1976 Total** | **3.661** | **8.762** | **9.010** | **.033** | **(s)** | **21.465** | **2.573** | **24.038** | **6.196** | **30.234** |
| **1977 Total** | **3.454** | **8.635** | **9.774** | **.033** | **.015** | **21.911** | **2.682** | **24.593** | **6.481** | **31.075** |
| **1978 Total** | **3.314** | **8.539** | **9.867** | **.032** | **.125** | **21.876** | **2.761** | **24.637** | **6.751** | **31.388** |
| **1979 Total** | **3.593** | **8.549** | **10.568** | **.034** | **.063** | **22.807** | **2.873** | **25.679** | **6.935** | **32.615** |
| **1980 Total** | **3.155** | **8.395** | **9.525** | **.033** | **-.035** | **21.073** | **2.781** | **23.854** | **6.755** | **30.609** |
| **1981 Total** | **3.157** | **8.257** | **8.285** | **.033** | **-.016** | **19.715** | **2.817** | **22.533** | **6.705** | **29.238** |
| **1982 Total** | **2.552** | **7.121** | **7.794** | **.033** | **-.022** | **17.479** | **2.542** | **20.020** | **6.124** | **26.144** |
| **1983 Total** | **2.490** | **6.826** | **7.420** | **.033** | **-.016** | **16.753** | **2.648** | **19.401** | **6.356** | **25.756** |
| **1984 Total** | **2.842** | **7.448** | **7.894** | **.033** | **-.011** | **18.205** | **2.859** | **21.064** | **6.663** | **27.727** |
| **1985 Total** | **2.760** | **7.080** | **7.725** | **.033** | **-.013** | **17.584** | **2.855** | **20.439** | **6.681** | **27.120** |
| **1986 Total** | **2.643** | **6.690** | **7.953** | **.032** | **-.017** | **17.301** | **2.834** | **20.135** | **6.507** | **26.642** |
| **1987 Total** | **2.673** | **7.323** | **8.210** | **.032** | **.009** | **18.247** | **2.928** | **21.175** | **6.694** | **27.870** |
| **1988 Total** | **2.828** | **7.696** | **8.456** | **.032** | **.040** | **19.053** | **3.059** | **22.111** | **6.895** | **29.007** |
| **1989** January | .245 | .714 | .731 | .003 | .007 | 1.700 | .254 | 1.954 | .555 | 2.510 |
| February | .236 | .677 | .672 | .003 | .002 | 1.590 | .249 | 1.839 | .538 | 2.377 |
| March | .247 | .716 | .734 | .003 | .003 | 1.703 | .254 | 1.957 | .560 | 2.517 |
| April | .233 | .670 | .650 | .003 | .007 | 1.563 | .255 | 1.819 | .549 | 2.368 |
| May | .230 | .652 | .658 | .003 | .006 | 1.549 | .263 | 1.812 | .622 | 2.433 |
| June | .226 | .633 | .654 | .003 | .004 | 1.520 | .271 | 1.791 | .621 | 2.412 |
| July | .226 | .632 | .620 | .003 | .004 | 1.485 | .269 | 1.754 | .635 | 2.389 |
| August | .221 | .645 | .673 | .002 | .003 | 1.544 | .277 | 1.821 | .637 | 2.458 |
| September | .220 | .632 | .643 | .002 | .002 | 1.499 | .272 | 1.771 | .553 | 2.324 |
| October | .249 | .675 | .758 | .002 | -.004 | 1.680 | .271 | 1.951 | .595 | 2.546 |
| November | .241 | .714 | .672 | .002 | -.001 | 1.628 | .262 | 1.890 | .589 | 2.479 |
| December | .237 | .762 | .749 | .002 | -.002 | 1.748 | .261 | 2.008 | .633 | 2.641 |
| **Total** | **2.810** | **8.123** | **8.214** | **.033** | **.030** | **19.210** | **3.158** | **22.368** | **7.089** | **29.457** |
| **1990** January | .236 | R.761 | .740 | .003 | (s) | R1.740 | .254 | R1.994 | .524 | R2.518 |
| February | .229 | R.698 | .647 | .003 | (s) | R1.576 | .252 | R1.828 | .526 | R2.354 |
| March | .236 | R.732 | .704 | .003 | .001 | R1.675 | .260 | R1.935 | .581 | R2.516 |
| April | .225 | .749 | .675 | .003 | -.001 | 1.652 | .258 | 1.910 | .558 | R2.467 |
| May | .229 | R.729 | .693 | .003 | (s) | R1.654 | .266 | R1.921 | .615 | R2.535 |
| June | .225 | R.687 | .657 | .003 | .001 | R1.573 | .271 | R1.844 | .647 | R2.492 |
| July | .224 | R.678 | .671 | .003 | .003 | R1.579 | .275 | R1.854 | .630 | R2.484 |
| August | .228 | R.703 | .705 | .002 | -.001 | R1.638 | .285 | R1.923 | .657 | R2.580 |
| September | .224 | R.698 | .654 | .002 | .001 | R1.579 | .275 | R1.854 | .559 | R2.413 |
| October | .246 | R.755 | .753 | .002 | .001 | R1.756 | .278 | R2.034 | .594 | R2.628 |
| November | .243 | R.744 | .676 | .002 | -.001 | R1.664 | .264 | R1.928 | .565 | R2.492 |
| December | .235 | R.787 | .743 | .002 | .001 | R1.768 | .260 | R2.028 | .607 | R2.635 |
| **Total** | **2.780** | **R8.719** | **8.318** | **.033** | **.005** | **R19.854** | **3.199** | **R23.053** | **7.060** | **R30.112** |
| **1991** January | .230 | R.797 | .749 | .003 | .001 | 1.780 | .258 | R2.039 | .572 | R2.610 |
| February | .219 | R.703 | .630 | .003 | .001 | R1.554 | .251 | R1.805 | .496 | R2.301 |
| March | .228 | R.718 | .643 | .003 | .002 | R1.594 | .254 | R1.848 | .563 | R2.411 |
| April | .214 | R.709 | .637 | .003 | .001 | R1.564 | .257 | R1.821 | .551 | R2.372 |
| May | .211 | .680 | .622 | .003 | .001 | R1.518 | .272 | R1.790 | .641 | R2.431 |
| June | .201 | R.651 | .628 | .003 | -.001 | R1.482 | .274 | R1.756 | .615 | R2.371 |
| July | .204 | .686 | .650 | .003 | .003 | 1.546 | .277 | 1.823 | .641 | 2.464 |
| **7-Month Total** | **1.506** | **4.945** | **4.560** | **.021** | **.006** | **11.038** | **1.843** | **12.881** | **4.079** | **16.960** |
| **1990 7-Month Total** | **1.604** | **5.033** | **4.787** | **.021** | **.004** | **11.448** | **1.837** | **13.285** | **4.081** | **17.366** |
| **1989 7-Month Total** | **1.642** | **4.694** | **4.719** | **.021** | **.033** | **11.110** | **1.816** | **12.926** | **4.080** | **17.006** |

[a] Includes supplemental gaseous fuels.

[b] Excludes wood, waste, geothermal, wind, photovoltaic, and solar thermal energy, except for small amounts used by electric utilities to generate electricity for distribution.

R=Revised data. (s)=Less than +0.5 trillion Btu and greater than -0.5 trillion Btu.

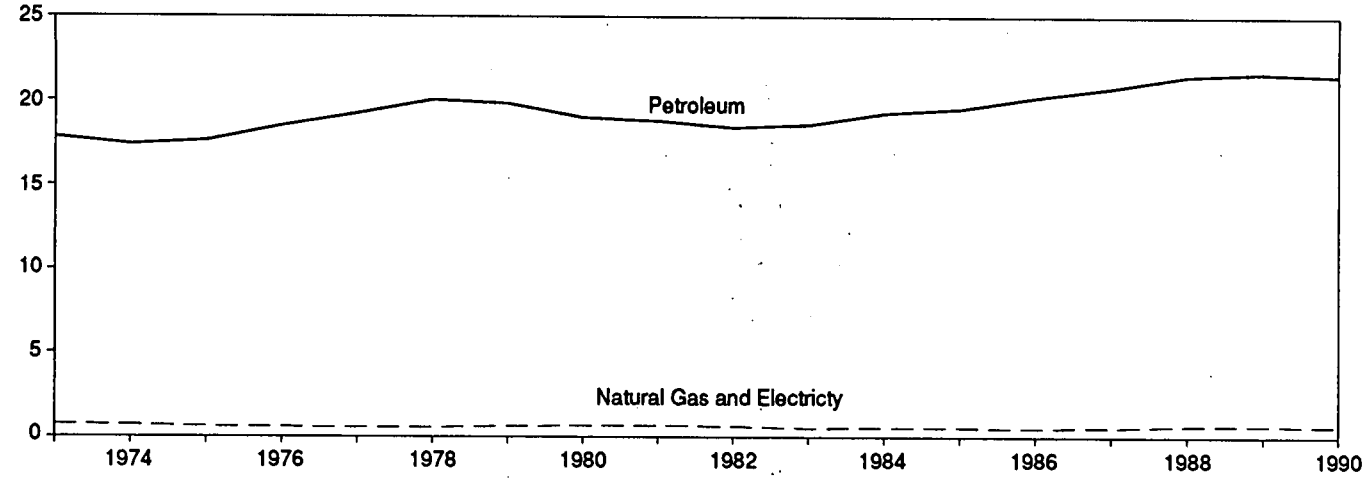
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

Additional Notes and Sources: See end of section.

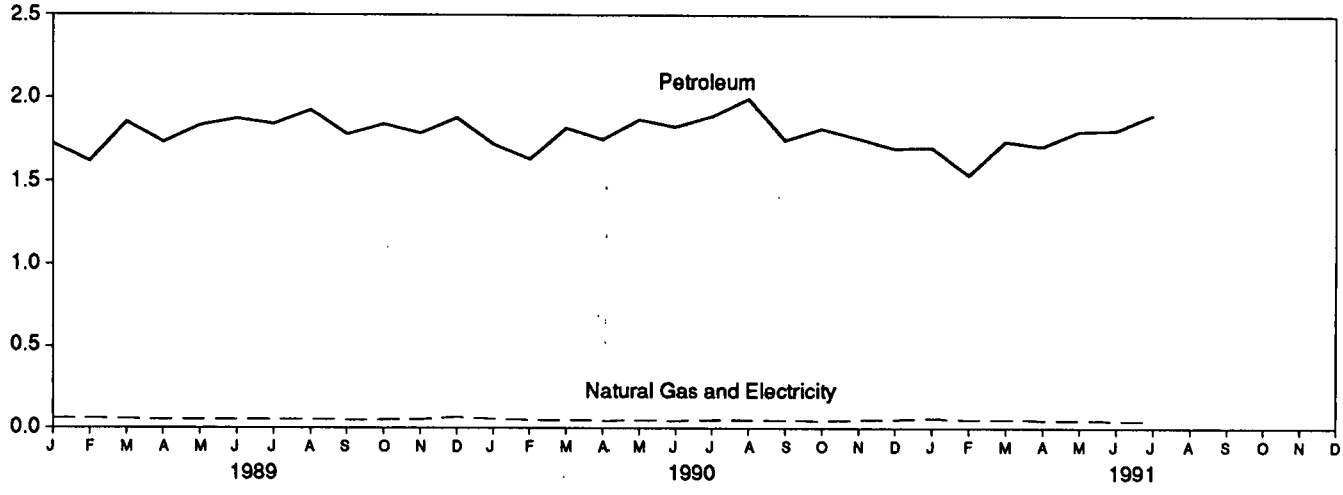
## Figure 2.4 Transportation Energy Consumption

(Quadrillion Btu)

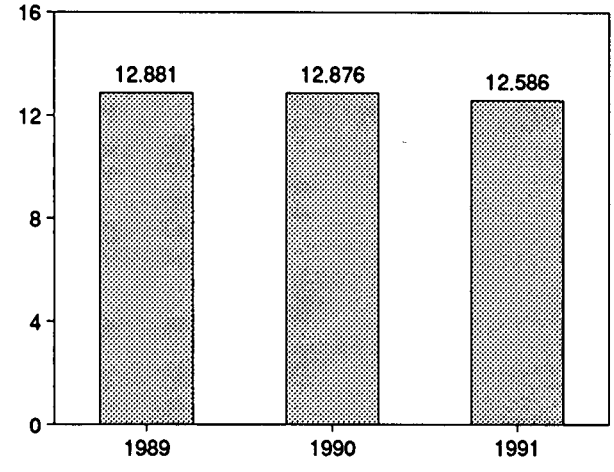
### Consumption by Major Sources, 1973-1990



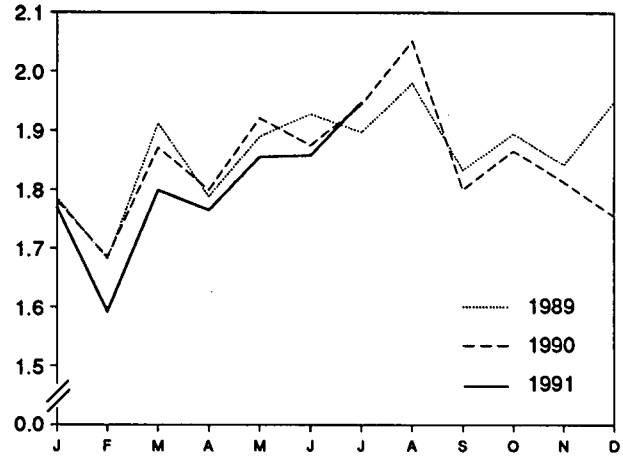

### Consumption by Major Sources, Monthly




### Total Consumption, January-July




### Total Consumption, Monthly




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 2.5.

# Table 2.5 Transportation Energy Consumption

(Quadrillion Btu)

| | Coal | Natural Gas[a] | Petroleum | Primary Consumption | Electricity | Net Consumption | Electrical System Energy Losses | Total Consumption[b] |
|---|---|---|---|---|---|---|---|---|
| **1973 Total** | **0.003** | **0.743** | **17.831** | **18.576** | **0.008** | **18.584** | **0.020** | **18.605** |
| **1974 Total** | **.002** | **.685** | **17.399** | **18.086** | **.009** | **18.095** | **.022** | **18.117** |
| **1975 Total** | **.001** | **.595** | **17.614** | **18.209** | **.010** | **18.219** | **.025** | **18.244** |
| **1976 Total** | **(s)** | **.559** | **18.506** | **19.065** | **.010** | **19.076** | **.025** | **19.101** |
| **1977 Total** | **(s)** | **.543** | **19.241** | **19.784** | **.010** | **19.794** | **.025** | **19.819** |
| **1978 Total** | **(c)** | **.539** | **20.041** | **20.580** | **.009** | **20.589** | **.022** | **20.611** |
| **1979 Total** | **(c)** | **.612** | **19.825** | **20.436** | **.010** | **20.447** | **.025** | **20.472** |
| **1980 Total** | **(c)** | **.650** | **19.008** | **19.658** | **.011** | **19.669** | **.026** | **19.695** |
| **1981 Total** | **(c)** | **.658** | **18.811** | **19.469** | **.011** | **19.480** | **.026** | **19.507** |
| **1982 Total** | **(c)** | **.612** | **18.420** | **19.032** | **.011** | **19.043** | **.026** | **19.069** |
| **1983 Total** | **(c)** | **.505** | **18.593** | **19.098** | **.011** | **19.109** | **.026** | **19.135** |
| **1984 Total** | **(c)** | **.545** | **19.286** | **19.831** | **.012** | **19.843** | **.028** | **19.871** |
| **1985 Total** | **(c)** | **.519** | **19.534** | **20.053** | **.013** | **20.066** | **.030** | **20.097** |
| **1986 Total** | **(c)** | **.499** | **20.215** | **20.714** | **.013** | **20.728** | **.030** | **20.758** |
| **1987 Total** | **(c)** | **.535** | **20.780** | **21.315** | **.013** | **21.328** | **.029** | **21.357** |
| **1988 Total** | **(c)** | **.632** | **21.510** | **22.141** | **.014** | **22.155** | **.031** | **22.186** |
| **1989** January | (c) | .059 | 1.724 | 1.782 | .001 | 1.784 | .002 | 1.786 |
| February | (c) | .059 | 1.618 | 1.677 | .001 | 1.678 | .002 | 1.681 |
| March | (c) | .056 | 1.853 | 1.909 | .001 | 1.910 | .002 | 1.912 |
| April | (c) | .050 | 1.734 | 1.785 | .001 | 1.786 | .002 | 1.788 |
| May | (c) | .053 | 1.834 | 1.886 | .001 | 1.887 | .003 | 1.890 |
| June | (c) | .052 | 1.873 | 1.924 | .001 | 1.925 | .003 | 1.928 |
| July | (c) | .052 | 1.841 | 1.893 | .001 | 1.894 | .003 | 1.897 |
| August | (c) | .052 | 1.925 | 1.976 | .001 | 1.977 | .003 | 1.980 |
| September | (c) | .049 | 1.780 | 1.829 | .001 | 1.831 | .002 | 1.833 |
| October | (c) | .050 | 1.841 | 1.892 | .001 | 1.893 | .002 | 1.895 |
| November | (c) | .052 | 1.787 | 1.839 | .001 | 1.840 | .002 | 1.842 |
| December | (c) | .067 | 1.878 | 1.945 | .001 | 1.946 | .003 | 1.949 |
| **Total** | **(c)** | **.649** | **21.687** | **22.336** | **.014** | **22.350** | **.031** | **22.380** |
| **1990** January | (c) | .055 | 1.723 | 1.778 | .001 | 1.779 | .003 | 1.781 |
| February | (c) | .049 | 1.632 | 1.681 | .001 | 1.682 | .002 | 1.685 |
| March | (c) | .049 | 1.818 | 1.867 | .001 | 1.869 | .003 | 1.871 |
| April | (c) | .045 | 1.750 | 1.796 | .001 | 1.797 | .002 | 1.799 |
| May | (c) | .048 | 1.868 | 1.917 | .001 | 1.918 | .003 | 1.921 |
| June | (c) | .045 | 1.826 | 1.871 | .001 | 1.872 | .003 | 1.875 |
| July | (c) | .050 | 1.890 | 1.940 | .001 | 1.941 | .003 | 1.944 |
| August | (c) | .050 | 1.996 | 2.046 | .001 | 2.048 | .003 | 2.051 |
| September | (c) | .048 | 1.747 | 1.796 | .001 | 1.797 | .002 | 1.800 |
| October | (c) | .045 | 1.816 | 1.862 | .001 | 1.863 | .003 | 1.866 |
| November | (c) | .050 | 1.759 | 1.810 | .001 | 1.811 | .002 | 1.813 |
| December | (c) | .053 | 1.699 | 1.751 | .001 | 1.752 | .003 | 1.755 |
| **Total** | **(c)** | **.590** | **21.524** | **22.114** | **.014** | **22.129** | **.031** | **22.160** |
| **1991** January | (c) | .060 | 1.706 | 1.766 | .001 | 1.767 | .003 | 1.770 |
| February | (c) | .052 | 1.537 | 1.588 | .001 | 1.589 | .002 | 1.592 |
| March | (c) | .053 | 1.743 | 1.795 | .001 | 1.796 | .003 | 1.799 |
| April | (c) | .049 | 1.712 | 1.761 | .001 | 1.763 | .002 | 1.765 |
| May | (c) | .049 | 1.802 | 1.851 | .001 | 1.852 | .003 | 1.855 |
| June | (c) | .045 | 1.808 | 1.854 | .001 | 1.855 | .003 | 1.858 |
| July | (c) | .043 | 1.900 | 1.943 | .001 | 1.945 | .003 | 1.948 |
| **7-Month Total** | **(c)** | **.351** | **12.207** | **12.559** | **.009** | **12.567** | **.019** | **12.586** |
| **1990 7-Month Total** | **(c)** | **.343** | **12.507** | **12.850** | **.008** | **12.858** | **.018** | **12.876** |
| **1989 7-Month Total** | **(c)** | **.379** | **12.477** | **12.856** | **.008** | **12.864** | **.018** | **12.881** |

[a] Pipeline fuel only, including supplemental gaseous fuels.

[b] Excludes wood, waste, geothermal, wind, photovoltaic, and solar thermal energy, except for small amounts used by electric utilities to generate electricity for distribution.

[c] Since 1978, the small amounts of coal consumed for transportation are reported as industrial sector consumption.

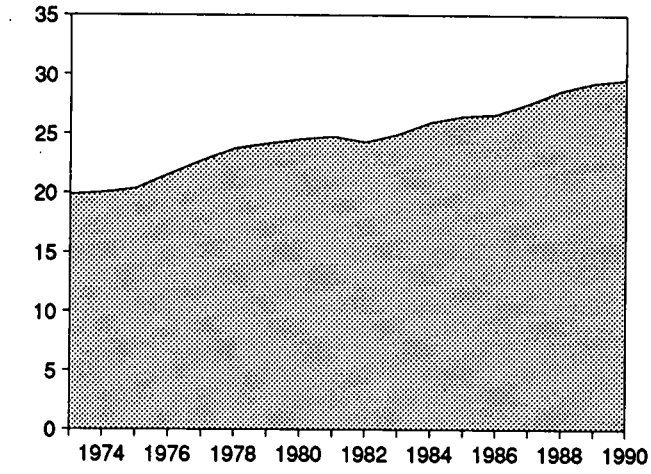
(s)=Less than 0.5 trillion Btu.

Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

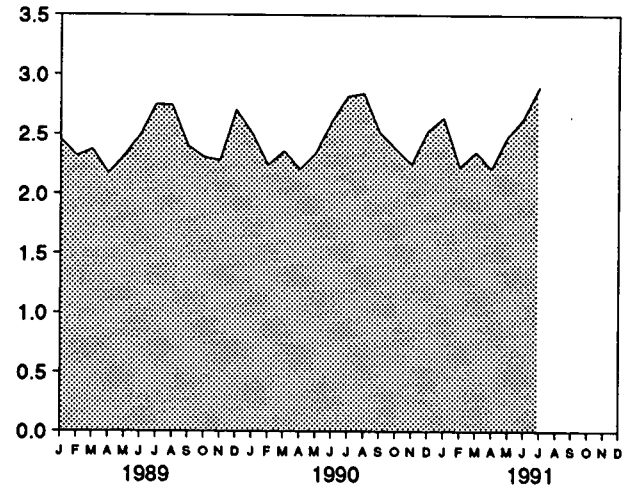
Additional Notes and Sources: See end of section.

## Figure 2.5 Energy Input at Electric Utilities
(Quadrillion Btu)

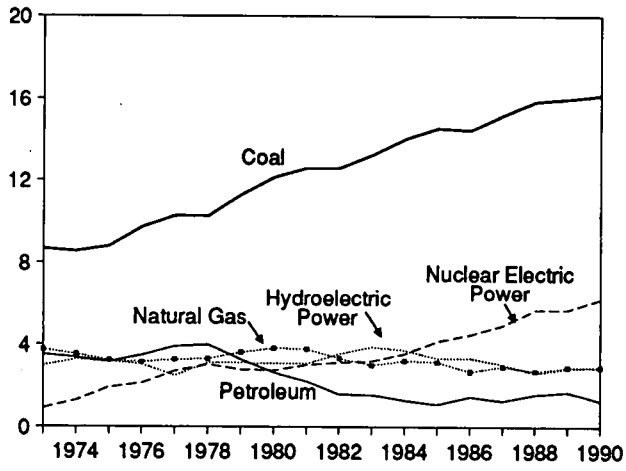
### Total Input, 1973-1990



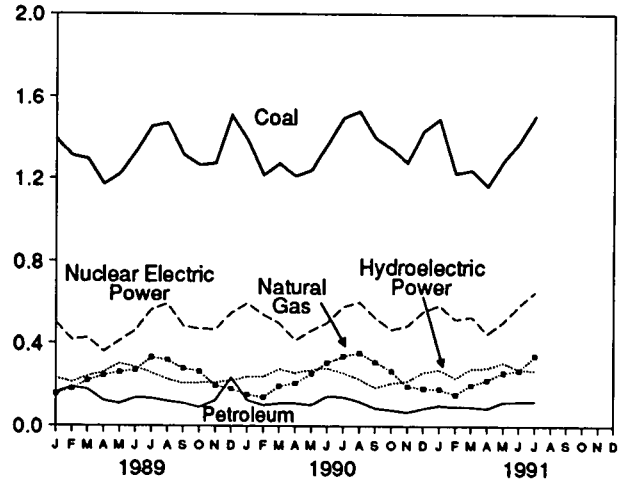

### Total Input, Monthly



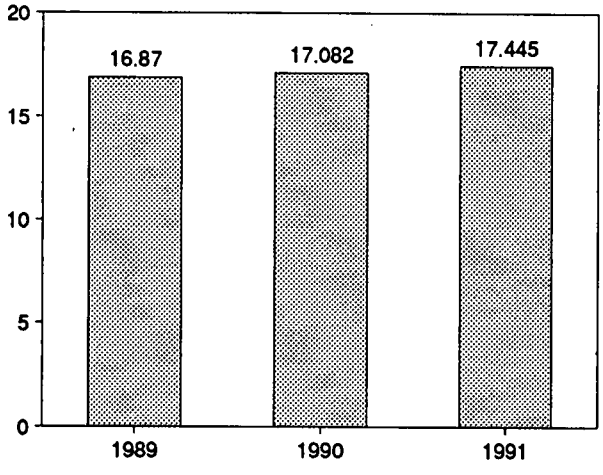

### Input by Major Sources, 1973-1990



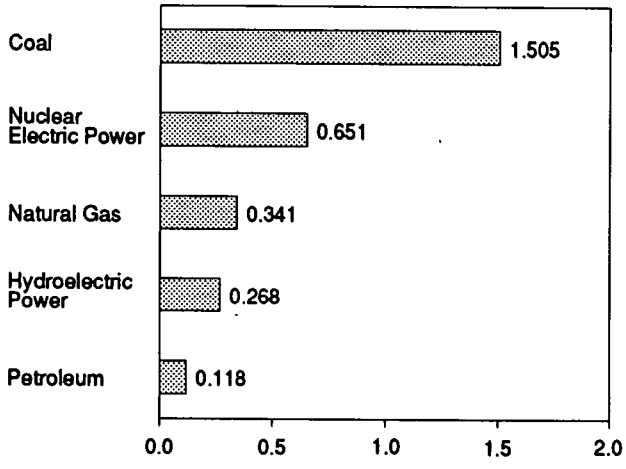

### Input by Major Sources, Monthly




### Total Input, January-July




### Input by Major Sources, July 1991




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 2.6.

# Table 2.6 Energy Input at Electric Utilities

(Quadrillion Btu)

| | Coal | Natural Gas[a] | Petroleum[b] | Nuclear Electric Power | Hydro-electric Power[c] | Other[d] | Total |
|---|---|---|---|---|---|---|---|
| **1973 Total** | **8.658** | **3.748** | **3.515** | **0.910** | **2.975** | **0.046** | **19.852** |
| **1974 Total** | **8.534** | **3.519** | **3.365** | **1.272** | **3.276** | **.056** | **20.022** |
| **1975 Total** | **8.786** | **3.240** | **3.166** | **1.900** | **3.187** | **.072** | **20.350** |
| **1976 Total** | **9.720** | **3.152** | **3.477** | **2.111** | **3.032** | **.081** | **21.574** |
| **1977 Total** | **10.262** | **3.284** | **3.901** | **2.702** | **2.482** | **.082** | **22.713** |
| **1978 Total** | **10.238** | **3.297** | **3.987** | **3.024** | **3.110** | **.068** | **23.724** |
| **1979 Total** | **11.260** | **3.613** | **3.283** | **2.776** | **3.107** | **.089** | **24.128** |
| **1980 Total** | **12.123** | **3.810** | **2.634** | **2.739** | **3.085** | **.114** | **24.505** |
| **1981 Total** | **12.583** | **3.768** | **2.202** | **3.008** | **3.072** | **.127** | **24.760** |
| **1982 Total** | **12.582** | **3.342** | **1.568** | **3.131** | **3.539** | **.108** | **24.270** |
| **1983 Total** | **13.213** | **2.998** | **1.544** | **3.203** | **3.866** | **.133** | **24.956** |
| **1984 Total** | **14.020** | **3.220** | **1.286** | **3.553** | **3.725** | **.174** | **25.977** |
| **1985 Total** | **14.542** | **3.160** | **1.090** | **4.149** | **3.330** | **.213** | **26.484** |
| **1986 Total** | **14.444** | **2.691** | **1.452** | **4.471** | **3.353** | **.231** | **26.642** |
| **1987 Total** | **15.173** | **2.935** | **1.257** | **4.906** | **3.035** | **.244** | **27.551** |
| **1988 Total** | **15.850** | **2.709** | **1.563** | **5.661** | **2.607** | **.235** | **28.626** |
| **1989** January | 1.392 | .152 | .161 | .497 | .231 | .019 | 2.451 |
| February | 1.309 | .178 | .185 | .415 | .211 | .017 | 2.316 |
| March | 1.293 | .218 | .175 | .425 | .240 | .020 | 2.371 |
| April | 1.170 | .243 | .121 | .359 | .259 | .017 | 2.170 |
| May | 1.220 | .259 | .107 | .411 | .302 | .018 | 2.318 |
| June | 1.327 | .269 | .134 | .461 | .284 | .018 | 2.493 |
| July | 1.454 | .331 | .132 | .561 | .256 | .019 | 2.752 |
| August | 1.470 | .320 | .118 | .589 | .226 | .018 | 2.742 |
| September | 1.312 | .277 | .109 | .481 | .205 | .017 | 2.400 |
| October | 1.263 | .263 | .089 | .467 | .208 | .018 | 2.307 |
| November | 1.272 | .195 | .121 | .465 | .210 | .017 | 2.281 |
| December | 1.508 | .177 | .233 | .545 | .220 | .018 | 2.702 |
| **Total** | **15.988** | **2.882** | **1.685** | **5.677** | **2.852** | **.217** | **29.301** |
| **1990** January | 1.388 | .151 | .123 | .591 | .238 | .018 | 2.510 |
| February | 1.215 | .136 | .100 | .536 | .238 | .016 | 2.242 |
| March | 1.272 | .190 | .108 | .494 | .275 | .018 | 2.358 |
| April | 1.210 | .206 | .108 | .413 | .255 | .014 | 2.206 |
| May | 1.239 | .252 | .101 | .461 | .273 | .017 | 2.341 |
| June | 1.365 | .307 | .141 | .497 | .280 | .017 | 2.607 |
| July | 1.495 | .337 | .138 | .575 | .256 | .017 | 2.818 |
| August | 1.528 | .354 | .117 | .598 | .227 | .017 | 2.842 |
| September | 1.398 | .311 | .086 | .520 | .184 | .016 | 2.515 |
| October | 1.346 | .265 | .077 | .465 | .207 | .017 | 2.378 |
| November | 1.276 | .191 | .067 | .483 | .217 | .016 | 2.250 |
| December | 1.431 | .181 | .085 | .553 | .260 | .017 | 2.528 |
| **Total** | **16.162** | **2.881** | **1.251** | **6.186** | **2.911** | **.202** | **29.595** |
| **1991** January | 1.491 | .177 | .099 | .583 | .273 | .017 | 2.640 |
| February | 1.224 | .151 | .092 | .513 | .232 | .014 | 2.227 |
| March | 1.240 | .198 | .092 | .527 | .277 | .016 | 2.351 |
| April | 1.162 | .223 | .085 | .447 | .281 | .015 | 2.212 |
| May | 1.284 | .258 | .115 | .501 | .308 | .015 | 2.481 |
| June | 1.378 | .269 | .117 | .581 | .275 | .016 | 2.635 |
| July | 1.505 | .341 | .118 | .651 | .268 | .016 | 2.899 |
| **7-Month Total** | **9.284** | **1.616** | **.718** | **3.804** | **1.914** | **.110** | **17.445** |
| **1990 7-Month Total** | **9.184** | **1.579** | **.819** | **3.567** | **1.816** | **.118** | **17.082** |
| **1989 7-Month Total** | **9.164** | **1.650** | **1.015** | **3.130** | **1.783** | **.128** | **16.870** |

[a] Includes supplemental gaseous fuels.

[b] Petroleum products reported as "oil consumed in steam plants" through 1979 and "heavy oil" from 1980 forward, which are assumed to be residual fuel oil; petroleum products reported as "oil consumed in gas turbine and internal combustion engine plants" through 1979 and "light oil" from 1980 forward, which are assumed to be distillate fuel oil and kerosene; and petroleum coke.

[c] Includes net imports of electricity.

[d] Other is electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy.

Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

Additional Notes and Sources: See end of section.

# Energy Consumption Notes and Sources

The data in this section of the *Monthly Energy Review* (*MER*) are obtained initially from a group of energy-related surveys, typically called "supply surveys," conducted by the Energy Information Administration (EIA). Supply surveys are those surveys directed to suppliers and marketers of specific energy sources. They measure the quantities of specific energy sources produced, or the quantities supplied to the market, or both. The data obtained from the EIA's supply surveys are integrated to yield the summary consumption statistics published in this section (and in Section 1) of the *MER*. Users of the EIA's energy consumption statistics should be aware of a second group of energy-related surveys, typically called "consumption surveys." Consumption surveys gather information on the types of energy consumed by end users of energy, along with the characteristics of those end users that can be associated with energy use. For example, the Manufacturing Energy Consumption Survey belongs to the consumption survey group because it collects information directly from end users (the manufacturing establishments). There are important differences between the supply and consumption surveys that need to be taken into account in any analysis that uses both data sources. For information on those differences, see *Energy Consumption by End-Use Sector, A Comparison of Measures by Consumption and Supply Surveys,* DOE/EIA-0533, Energy Information Administration, Washington, DC, April 6, 1990. The numbered notes that follow elaborate on essential information in Section 2.

**1. Total Energy Consumed:** Total energy consumed includes coal, natural gas (including supplemental gaseous fuels), petroleum products supplied, electric utility and industrial generation of hydroelectric power, net imports of electricity generated from hydroelectric power, and electricity generated from nuclear power. Total energy consumed also includes electricity generated from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy but excludes other energy obtained from those sources because consistent historical data are not available.

**2. Economic Sectors:** Energy use is assigned to the major economic sectors according to the following guidelines as closely as possible:

- Residential—All private residences, whether occupied or vacant, owned or rented, including single-family homes, multifamily housing units, and mobile homes. Secondary homes, such as summer homes, are also included. Institutional housing, such as school dormitories, hospitals, and military barracks, generally are not included in the residential sector; they are included in the commercial sector. The SIC code used to classify an establishment as residential is 88 (Household).
- Commercial—Business establishments that are not engaged in transportation or in manufacturing or other types of industrial activity (agriculture, mining, or construction). Commercial establishments include hotels, motels, restaurants, wholesale businesses, retail stores, laundries, and other service enterprises; religious and nonprofit organizations; health, social, and educational institutions; and Federal, State, and local governments. Street lights, pumps, bridges, and public services are also included if the establishment operating them is considered commercial. SIC codes used to classify an establishment as commercial are 50 through 87, 89, and 91 through 97.
- Industrial—Manufacturing industries, which make up the largest part of the sector, along with mining, construction, agriculture, fisheries, and forestry. Establishments in the sector range from steel mills to small farms to companies assembling electronic components. The SIC codes used to classify establishments as industrial are 1 through 39.
- Transportation—Private and public vehicles that move people and commodities. Included are automobiles, trucks, buses, motorcycles, railroads and railways (including streetcars), aircraft, ships, barges, and natural gas pipelines. The SIC codes used to classify establishments as belonging to the transportation sector are 40 through 49.
- Electric Utility—Privately and publicly owned establishments that generate electricity primarily for use by the public.

Although the end-use allocations are made according to these aggregations as closely as possible, some data are collected using different classifications. For example, data on agricultural use of natural gas are collected and reported in the commercial sector, rather than the industrial sector. Since agricultural use of natural gas cannot be identified separately, it is included in the commercial sector in this report. Another example is master-metered condominiums and apartments, and buildings with a combination of residential and commercial units. In many cases, the metering and billing practices cause residential energy usage of electricity, natural gas, or fuel oil to be included in the commercial sector. No adjustments for these discrepancies were made.

**3. Conversion Factors:** See the conversion factors listed in the Appendix.

**4. Coal:** Coal is anthracite, bituminous coal (including sub-bituminous coal), and lignite. Sources:

- 1973-September 1977: U.S. Department of the Interior (DOI), Bureau of Mines (BOM), *Minerals Yearbook* and *Minerals Industry Surveys.*

- Electric Utilities—October 1977 forward: Energy Information Administration (EIA), Form EIA-759 (formerly Form FPC-4), "Monthly Power Plant Report."
- Other Industrial—October 1977-December 1979: EIA, Form EIA-3, "Monthly Coal Consumption Report - Manufacturing Plants"; January 1980 forward: EIA, Form EIA-3, "Quarterly Coal Consumption Report - Manufacturing Plants" and Form EIA-6, "Coal Distribution Report."
- Coke Plants—October 1977-December 1980: EIA, Form EIA-5/5A, "Coke and Coal Chemicals - Monthly/Annual"; January 1981-December 1984: EIA, Form EIA-5/5A, "Coke Plant Report - Quarterly/Annual Supplement"; January 1985 forward: EIA, Form EIA-5/5A, "Coke Plant Report," quarterly.
- Residential and Commercial—October 1977-December 1979: EIA, Form EIA-2, "Monthly Coal Report, Retail Dealers - Upper Lake Docks"; January 1980 forward: EIA, Form EIA-6, "Coal Distribution Report."

**5. Natural Gas:** Natural gas consumption by end use is based on data presented in Table 4.3 of this report. For Section 2 calculations, lease and plant fuel consumption are added to industrial deliveries, and pipeline fuel represents transportation use of natural gas. Values in Btu are derived by using the conversion factors provided in the Appendix. Sources:

- 1973-1975: DOI, BOM, *Minerals Yearbook*, "Natural Gas" chapter.
- 1976-1978: EIA, *Energy Data Reports*, "Natural Gas, Annual."
- 1979: EIA, *Natural Gas Production and Consumption 1979*.
- 1980-1989: EIA, *Natural Gas Annual*.
- 1990 forward: EIA, Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers," and EIA computations.
- Electric Utilities—1973-1976: Form FPC-4, "Monthly Power Plant Report"; 1977-1981: Federal Energy Regulatory Commission (FERC), Form FPC-4, "Monthly Power Plant Report"; 1982 forward: EIA, Form EIA-759, "Monthly Power Plant Report."
- American Gas Association, "Monthly Gas Utility Statistical Report," residential and commercial monthly sales data for 1973-1979, which are used to estimate monthly consumption values from EIA annual consumption values.

**6. Petroleum:** Petroleum consumption by end use is the sum of all individual petroleum products estimated to be consumed in each end-use sector. First, total consumption by product is determined. Petroleum consumption in this section of the *Monthly Energy Review (MER)* is the series called "petroleum products supplied" in Section 3. Sources for petroleum products supplied by individual products are:

- 1973-1975: DOI, BOM, *Mineral Industry Surveys*, "Petroleum Statement, Annual."
- 1976-1980: EIA, *Energy Data Reports*, "Petroleum Statement, Annual."
- 1981-1990: EIA, *Petroleum Supply Annual*.
- 1991 forward: EIA, *Petroleum Supply Monthly*.

Specific petroleum products' end-use allocation procedures follow:

- **Aviation Gasoline**—All product supplied is assignedto the transportation sector.
- **Asphalt**—All product supplied is assigned to the industrial sector.
- **Distillate Fuel**

***Electric Utilities, All Periods.***

Monthly and annual consumption for 1973-1979 is assumed to be the amount of oil (minus small amounts of kerosene and kerosene-type jet fuel deliveries) reported as consumed in internal combustion and gas turbine engine plants. From January 1980, electric utility consumption of distillate fuel is assumed to be the petroleum products reported as "light oil" (minus small amounts of kerosene deliveries through 1982) consumed at electric utilities.

Sources: 1973-September 1977: FPC, Form FPC-4, "Monthly Power Plant Report"; October 1977-1981: FERC, Form FPC-4, "Monthly Power Plant Report"; 1982 forward: EIA, Form EIA-759, "Monthly Power Plant Report."

***Non-Electric Utilities, Annual Estimates Through 1989.***

The aggregate non-electric utility use of distillate fuel is total distillate fuel supplied minus the electric utility consumption. The non-electric utility annual totals are allocated into the individual non-electric utility sectors in proportion to the amount of distillate fuel delivered to end users, grouped into sectors from EIA's "Deliveries of Fuel Oil and Kerosene" ("Deliveries") reports (based primarily on data collected by Form EIA-821, previously Form EIA-172) as follows:

- Residential deliveries are directly from the "Deliveries" reports for 1979-1989. Prior to 1979, each year's deliveries subtotal of the heating plus industrial category is split into residential, commercial, and industrial (including farm) in proportion to the 1979 shares.

- Commercial deliveries are directly from the Deliveries reports for 1979-1989. Prior to 1979,

each year's deliveries subtotal of the heating plus industrial category is split into residential, commercial, and industrial (including farm) in proportion to the 1979 shares.

- Industrial deliveries for 1979-1989 are the sum of deliveries for industrial, farm, oil company, off-highway, diesel, and all other uses. Prior to 1979, each year's deliveries subtotal of the heating plus industrial category is split into residential, commercial, and industrial (including farm) in proportion to the 1979 shares, and this estimated industrial portion is added to oil company, off-highway diesel, and all other uses.

- Transportation deliveries are the sum of deliveries for railroad, vessel bunkering, and on-highway diesel, and military uses for all years.

***Non-Electric Utilities, Monthly Estimates Through 1989.***

- Residential and commercial monthly consumption is estimated by allocating the annual estimates described above into months in proportion to each month's share of the year's sales of No. 2 heating oil as reported in the "Monthly Report of Heating Oil Sales" by the Ethyl Corporation from 1973-1980 and the American Petroleum Institute for 1981 and 1982, and the EIA, Form EIA-782A, "Refiners/Gas Plant Operators' Monthly Petroleum Product Sales Report," No. 2 Fuel Oil Sales to End Users and for Resale, for 1983-1989.

- The transportation highway use portion is allocated into the months in proportion to each month's share of the year's total sales for highway use as reported by the Federal Highway Administration's Table MF-25, "Private and Commercial Highway Use of Special Fuels by Months." The remaining transportation use of distillate fuel (i.e., for railroads, vessel bunkering, and military use) is evenly distributed over the months, adjusted for the number of days per month.

- Industrial monthly estimates are made by subtracting the residential and commercial, transportation, and electric utility sector estimates from each month's total distillate fuel supplied.

***Non-Electric Utilities, 1990 Forward.***

Each month's non-electric utility consumption subtotal is disaggregated into the major end-use sectors in proportion to the shares each sector held of the non-electric utility subtotal in the same month in 1989.

- **Jet Fuel**—Through 1982, small amounts of kerosene-type jet fuel were consumed by electric utilities. Kerosene-type jet fuel deliveries to electric utilities as reported on the Form FERC-423 (formerly Form FPC-423) were used as estimates of this consumption. All remaining jet fuel (kerosene-type and naphtha-type) is consumed by the transportation sector.

- **Kerosene**—Total product supplied monthly is allocated to the major end-use sectors in proportion to annual deliveries grouped into end-use sectors from EIA's "Deliveries of Fuel Oil and Kerosene" ("Deliveries") reports (based primarily on data collected by Form EIA-821, previously Form EIA-172), as follows:

  - Residential deliveries are directly from the "Deliveries" reports for 1979-1989. Deliveries for 1989 are used as estimates for succeeding periods. Prior to 1979, each year's deliveries category called "heating" is split into residential, commercial, and industrial in proportion to the 1979 shares.

  - Commercial deliveries are directly from the "Deliveries" reports for 1979-1989. Deliveries for 1989 are used as estimates for succeeding periods. Prior to 1979, each year's deliveries category called "heating" is split into residential, commercial, and industrial in proportion to the 1979 shares.

  - Industrial deliveries are directly from the "Deliveries" reports for 1979-1989. Deliveries for 1989 are used as estimates for succeeding periods. Prior to 1979, each year's deliveries category called "heating" is split into residential, commercial and industrial in proportion to the 1979 shares, and this estimated industrial (including farm) portion is added to all other uses.

- **Liquefied Petroleum Gases (LPG)**—The annual shares of LPG's total consumption that are estimated to be consumed by each end-use sector are applied to each month's total LPG consumption (i.e., product supplied) to create monthly end-use consumption estimates. The annual end-use shares are calculated in the following manner:

  - Sales of LPG to the residential and commercial sector are converted from thousand gallons per year to thousand barrels per year and are assumed to be the annual consumption of LPG by the sector.

  - The quantity of LPG sold each year for consumption in internal combustion engines is allocated between the transportation and industrial sectors based on data for special fuels used on highways published by the U.S. Department of Transportation, Federal Highway Administration, in *Highway Statistics*. The allocations of LPG sold for internal combustion engine use to the transportation sector range from a high of 67 percent in 1981 to a low of 33 percent in 1987.

  - LPG consumed annually by the industrial sector is estimated as the difference between LPG's total supplied and the estimated consumption by the sum of the residential and commercial sector and the transportation sector. The industrial sector includes LPG used by chemical plants as raw materials or solvents and for use in the production of synthetic rubber; refinery fuel use; use as syn-

thetic natural gas feedstock and use in secondary recovery projects; all farm use; LPG sold to gas utility companies for distribution through the mains; and a portion of the use of LPG as an internal combustion engine fuel.

The sources of the annual sales data for creating annual end-use shares are:

- 1973-1982: EIA's "Sales of Liquefied Petroleum Gases and Ethane" reports, based primarily on data collected by Form EIA-174.

- 1983: End-use consumption estimates for 1983 are based on 1982 end-use consumption because the collection of data under Form EIA-174 was discontinued after data year 1982.

- 1984-1989: American Petroleum Institute (API), "Sales of Natural Gas Liquids and Liquefied Refinery Gases," which is based on an LPG sales survey jointly sponsored by API, the Gas Processors Association, and the National Liquefied Petroleum Gas Association.

- 1990 forward: The 1989 source is used to estimate succeeding periods.

- **Lubricants**—Total product supplied is allocated to the industrial and transportation sectors for all months according to proportions developed from annual sales of lubricants to the two sectors from U.S. Department of Commerce, Bureau of the Census, *Current Industrial Reports*, "Sales of Lubricating and Industrial Oils and Greases." The 1973 shares are applied to 1973 and 1974; the 1975 shares are applied to 1975 and 1976; and the 1977 shares are applied to 1977 forward.

- **Motor Gasoline**—Total product supplied monthly is allocated to the major end-use sectors in proportion to aggregations of annual sales categories formed from the U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics*, Tables MF-21, MF-24, and MF-25, as follows:

  - Commercial sales are the sum of sales for public non-highway use and miscellaneous and unclassified uses.

  - Industrial sales are the sum of sales for agriculture, construction, and industrial and commercial use as classified in the *Highway Statistics*.

  - Transportation sales are the sum of sales for highway use (minus the sales of special fuels, which are primarily diesel fuel and are accounted for in the transportation sector of distillate fuel) and sales for marine use.

- **Petroleum Coke**—The portion consumed by electric utilities is from Form EIA-759, "Monthly Power Plant Report" (formerly Form FPC-4). The remaining petroleum coke is assigned to the industrial sector.

- **Residual Fuel**

  ***Electric Utilities, All Periods.***

  Monthly and annual consumption for 1973-1979 is assumed to be the amount of oil reported as consumed in steam-electric power plants. From January 1980 forward, electric utility consumption of residual fuel is assumed to be the petroleum products reported as heavy oil consumed at electric utilities.

  Sources: 1973-September 1977: Form FPC-4, "Monthly Power Plant Report"; October 1977-1981: FERC, Form FPC-4, "Monthly Power Plant Report"; 1982 forward: EIA, Form EIA-759, "Monthly Power Plant Report."

  ***Non-Electric Utilities, Annual Estimates Through 1989.***

  The aggregate non-electric utility use of residual fuel is total residual fuel supplied minus the electric utility consumption. The non-electric utility annual totals are allocated into the individual non-electric utility sectors in proportion to the amount of residual fuel delivered to end users, grouped into sectors from EIA's "Deliveries of Fuel Oil and Kerosene" ("Deliveries") reports (based primarily on data collected by Form EIA-821, previously Form EIA-172), as follows:

  - Commercial deliveries are directly from the "Deliveries" reports for 1979-1989. Prior to 1979, each year's deliveries subtotal of the heating plus industrial category is split into commercial and industrial in proportion to the 1979 shares.

  - Industrial deliveries for 1979-1989 are the sum of deliveries for industrial, oil company, and all other uses. Prior to 1979, each year's deliveries subtotal of the heating plus industrial category is split into commercial and industrial in proportion to the 1979 shares, and this estimated industrial portion is added to oil company and all other uses.

  - Transportation deliveries are the sum of deliveries for railroad, vessel bunkering, and military uses for all years.

  ***Non-Electric Utilities, Monthly Estimates Through 1989.***

  - Commercial sector monthly consumption is estimated by allocating the annual commercial sector estimates described above into months in proportion to each month's share of the year's sales of No. 2 fuel oil as reported in the "Monthly Report of Heating Oil Sales" by the Ethyl Corporation for 1973-1980 and the American Petroleum Institute for 1981 and 1982, and the EIA, Form EIA-782A, "Refiners/Gas Plant Operators' Monthly Petroleum Product Sales Report," No. 2 Fuel Oil Sales to End Users and for Resale, 1983-1989.

- Transportation monthly estimates are made by evenly distributing the annual sector estimate over the months, adjusted for the number of days per month.

- Industrial monthly estimates are made by subtracting the commercial, transportation, and electric utility sector estimates from each month's total residual fuel supplied.

*Non-Electric Utilities, 1990 Forward.*

Each month's non-electric utility consumption subtotal is disaggregated into the major end-use sectors in proportion to the shares each sector held of the non-electric utility subtotal in the same month in 1989.

- **Road Oil**—All product supplied is assigned to the industrial sector.
- **All Other Petroleum Products**—The product supplied of all remaining petroleum products is assigned to the industrial sector.

**7. Nuclear Electric Power and Wood, Waste, Geothermal, Wind, Photovoltaic, and Solar Thermal Energy Sources Connected to Electric Utility Distribution Systems:** Sources:

- 1973-1976: FPC, Form FPC-4, "Monthly Power Plant Report."
- 1977-1981: FERC, Form FPC-4, "Monthly Power Plant Report."
- 1982 forward: EIA, Form EIA-759, Monthly Power Plant Report."

**8. Hydroelectric Power:** Includes electricity generated by hydroelectric power at electric utilities, small amounts in the industrial sector, and net imports of electricity, which are assumed to be generated by hydroelectric power and are included in the electric utilities sector.

Sources for electric utilities sector:

- 1973-1976: FPC, Form FPC-4, "Monthly Power Plant Report."
- 1977-1981: FERC, Form FPC-4, "Monthly Power Plant Report."
- 1982 forward: EIA, Form EIA-759, "Monthly Power Plant Report."

Sources for industrial sector:

- 1973-1978: FPC, Form FPC-4, "Monthly Power Plant Report," for plants with generating capacity exceeding 10 megawatts, and FPC, Form FPC-12C, *Industrial Electric Generating Capacity*, for all other plants.
- 1979: FPC, Form FPC-4, "Monthly Power Plant Report," for plants with generating capacity exceeding 10 megawatts and EIA estimates for all other plants.
- 1980 forward: Annual generation estimated by EIA as the average generation over the 6-year period of 1974-1979; monthly generation estimated to be in proportion to each month's hydroelectricity generation in the electric utility industry in 1980.

Sources for imports and exports of electricity:

- 1973-September 1977: Unpublished Federal Power Commission data.
- October 1977-1980: Unpublished Economic Regulatory Administration (ERA) data.
- 1981: DOE, Office of Energy Emergency Operations, "Report on Electric Energy Exchanges with Canada and Mexico for Calendar Year 1981," April 1982 (revised June 1982).
- 1982 and 1983: DOE, ERA, *Electricity Exchanges Across International Borders.*
- 1984-1986: DOE, ERA, *Electricity Transactions Across International Borders.*
- 1987 and 1988: DOE, ERA, Form ERA-781R, "Annual Report of International Electrical Export/Import Data."
- 1989: DOE, Assistant Secretary for Fossil Energy, Form FE-781-R, "Annual Report of International Electrical Export/Import Data."
- 1990 forward: EIA estimates based on preliminary data from the National Energy Board of Canada and DOE, Assistant Secretary for Fossil Energy.

**9. Net Imports of Coal Coke:** Net imports means imports minus exports, and a minus sign indicates that exports are greater than imports. Sources:

- 1973-1975: DOI, BOM, *Minerals Yearbook*, "Coke and Coal Chemicals" chapter.
- 1976-1980: EIA, *Energy Data Report*, "Coke and Coal Chemicals" annual.
- 1981: EIA, *Energy Data Report*, "Coke Plant Report," quarterly.
- 1982 forward: EIA, *Quarterly Coal Report.*

**10. Electricity:** End-use consumption of electricity is based on Table 7.2 sales data. Other, which is primarily for use in government buildings, is added to the commercial sector, except for approximately 4 percent used by railroads and railways and attributed to the transportation sector. For 1973-1983 and 1989 forward, "Monthly Series" data are used directly. For 1984-1988, monthly estimates are created by dividing each month's "Monthly Series" value by the "Monthly Series" total for the year and multiplying by the "Annual Series" value for the year. Kilowatthours are

converted to Btu at the rate of 3,412 Btu per kilowatthour. See Table 7.2 for sources of the electricity sales data.

**11. Electrical System Energy Losses:** Electrical system energy losses are calculated as the difference between total energy input at electric utilities and the total energy content of electricity sold to end-use consumers. Most of those losses occur at steam-electric power plants (conventional and nuclear) in the conversion of heat energy into mechanical energy to turn electric generators. The loss is a thermodynamically necessary feature of the steam-electric cycle. Part of the energy input-to-output losses is a result of imputing fossil energy equivalent inputs for hydroelectric and other energy sources, since there is no generally accepted practice for measuring those thermal conversion rates. In addition to conversion losses, other losses include power plant use of electricity, transmission and distribution of electricity from power plants to end-use consumers (also called "line losses"), and unaccounted for electricity. Total losses are allocated to the end-use sectors in proportion to each sector's share of total electricity sales. Overall, approximately 67 percent of total energy input is lost in conversion; of electricity generated, approximately 5 percent is lost in plant use and 9 percent in transmission and distribution. Calculated electrical system energy losses may be less than actual losses, because primary consumption does not include the energy equivalent of utility purchases of electricity from non-electric utilities and from Canada and Mexico, although they are included in electricity sales.

# Section 3. Petroleum

Total petroleum imports[2] averaged 8.0 million barrels per day in September 1991, 8 percent[3] lower than the August 1991 rate but 8 percent higher than the September 1990 rate.

In September 1991, 16.9 million barrels per day of petroleum products were supplied for domestic use, 1 percent lower than the previous month but 2 percent higher than the September 1990 rate. Motor gasoline accounted for 43 percent of the total; distillate fuel oil, 18 percent; and residual fuel oil, 6 percent.

Motor gasoline supplied during September 1991 averaged 7.2 million barrels per day, 5 percent lower than the previous month but 4 percent higher than the September 1990 rate. Stocks of total motor gasoline totaled 216 million barrels at the end of September 1991, 7 million barrels above the stock level in the previous month but 13 million barrels below the level 1 year earlier.

In September 1991, 3.0 million barrels of distillate fuel oil were supplied per day, 7 percent above the August 1991 rate and 4 percent above the September 1990 rate. Distillate fuel oil ending stocks for September 1991 were 140 million barrels, 9 million barrels above the stock level in the previous month and 4 million barrels above the stock level 1 year earlier.

Residual fuel oil supplied in September 1991 averaged 1.1 million barrels per day, 9 percent lower than the previous month but 8 percent higher than the September 1990 rate. Residual fuel oil stocks measured 48 million barrels at the end of September 1991, 2 million barrels higher than the previous month but 1 million barrels lower than the level 1 year earlier.

Estimates (except of crude production) for the most current month are based on Energy Information Administration (EIA) weekly data and will be revised to conform with data from the EIA Petroleum Reporting System as available. For the most recent month, crude production is an EIA estimate based on historical and provisional data through June 1991.

[2]Total import data include imports into the Strategic Petroleum Reserve.
[3]Percentage changes are based on numbers shown in the following tables.

# Table 3.1a Petroleum Overview: Field Production, Stock Change, Petroleum Products Supplied, and Ending Stocks

| | Field Production | | | Stock Change[a] | | | Ending Stocks[b] |
|---|---|---|---|---|---|---|---|
| | Total Domestic[c] | Crude Oil | Natural Gas Plant Production | Crude Oil[d] | Petroleum Products | Petroleum Products Supplied | Crude Oil[d] and Petroleum Products |
| | Thousand Barrels per Day | | | | | | Million Barrels |
| **1973 Average** | **10,975** | **9,208** | **1,738** | **-11** | **146** | **17,308** | **1,008** |
| **1974 Average** | **10,498** | **8,774** | **1,688** | **62** | **117** | **16,653** | **[g] 1,074** |
| **1975 Average** | **10,045** | **8,375** | **1,633** | **[g] 17** | **[g] 15** | **16,322** | **1,133** |
| **1976 Average** | **9,774** | **8,132** | **[*] 1,604** | **39** | **-96** | **17,461** | **1,112** |
| **1977 Average** | **9,913** | **8,245** | **1,618** | **170** | **378** | **18,431** | **1,312** |
| **1978 Average** | **10,328** | **8,707** | **1,567** | **78** | **-172** | **18,847** | **1,278** |
| **1979 Average** | **10,179** | **8,552** | **1,584** | **148** | **25** | **18,513** | **1,341** |
| **1980 Average** | **10,214** | **8,597** | **1,573** | **98** | **42** | **17,056** | **[g] 1,392** |
| **1981 Average** | **10,230** | **8,572** | **1,609** | **[g] 290** | **[g] -130** | **16,058** | **1,484** |
| **1982 Average** | **10,252** | **8,649** | **1,550** | **136** | **-283** | **15,296** | **[g] 1,430** |
| **1983 Average** | **10,299** | **8,688** | **1,559** | **[g] 214** | **[g] -234** | **15,231** | **1,454** |
| **1984 Average** | **10,554** | **8,879** | **1,630** | **199** | **81** | **15,726** | **1,556** |
| **1985 Average** | **10,636** | **8,971** | **1,609** | **50** | **-153** | **15,726** | **1,519** |
| **1986 Average** | **10,289** | **8,680** | **1,551** | **78** | **124** | **16,281** | **1,593** |
| **1987 Average** | **10,008** | **8,349** | **1,595** | **128** | **-87** | **16,665** | **1,607** |
| **1988 Average** | **9,816** | **8,140** | **1,625** | **1** | **-29** | **17,283** | **1,597** |
| 1989 January | 9,678 | 7,937 | 1,664 | 179 | 563 | 17,269 | 1,620 |
| February | 9,441 | 7,788 | 1,607 | 47 | -733 | 17,920 | 1,601 |
| March | 9,284 | 7,575 | 1,650 | -127 | -924 | 17,989 | 1,568 |
| April | 9,501 | 7,772 | 1,674 | 494 | 413 | 16,624 | 1,596 |
| May | 9,498 | 7,816 | 1,620 | 271 | 598 | 16,546 | 1,623 |
| June | 9,188 | 7,624 | 1,507 | -434 | -64 | 17,497 | 1,608 |
| July | 9,055 | 7,444 | 1,541 | 148 | 1,182 | 16,453 | 1,649 |
| August | 9,106 | 7,544 | 1,504 | 283 | -104 | 17,360 | 1,654 |
| September | 9,096 | 7,548 | 1,480 | -144 | 577 | 16,795 | 1,667 |
| October | 8,983 | 7,453 | 1,478 | 73 | -378 | 17,304 | 1,658 |
| November | 9,084 | 7,536 | 1,483 | 541 | -367 | 17,311 | 1,663 |
| December | 8,734 | 7,337 | 1,343 | -302 | -2,335 | 18,858 | 1,581 |
| **Average** | **9,219** | **7,613** | **1,546** | **86** | **-129** | **17,325** | **1,581** |
| 1990 January | 9,178 | 7,546 | 1,541 | 273 | 1,284 | 16,964 | 1,630 |
| February | 9,147 | 7,497 | 1,570 | -330 | 507 | 17,175 | 1,635 |
| March | 9,034 | 7,433 | 1,526 | 1,057 | -823 | 17,087 | 1,642 |
| April | 8,979 | 7,407 | 1,493 | 26 | -83 | 16,778 | 1,640 |
| May | 8,923 | 7,328 | 1,502 | 479 | 532 | 16,915 | 1,672 |
| June | 8,645 | 7,106 | 1,458 | 72 | 378 | 17,165 | 1,685 |
| July | 8,735 | 7,173 | 1,484 | -154 | 929 | 17,084 | 1,709 |
| August | 8,931 | 7,287 | 1,575 | -227 | -113 | 18,050 | 1,699 |
| September | 8,891 | 7,224 | 1,597 | -896 | 887 | 16,512 | 1,698 |
| October | 9,301 | 7,542 | 1,667 | 111 | -879 | 16,934 | 1,674 |
| November | 9,155 | 7,387 | 1,690 | -364 | -322 | 16,695 | 1,654 |
| December | 9,019 | 7,338 | 1,604 | -528 | -544 | 16,494 | 1,621 |
| **Average** | **8,994** | **7,355** | **1,559** | **-35** | **142** | **16,988** | **1,621** |
| 1991 January | [E] 9,135 | [E] 7,418 | 1,635 | -94 | -1,094 | 16,882 | 1,587 |
| February | [E] 9,334 | [E] 7,548 | 1,690 | 250 | -688 | 16,284 | 1,574 |
| March | [E] 9,225 | [E] 7,481 | 1,670 | -242 | -261 | 16,100 | 1,559 |
| April | [E] 9,206 | [E] 7,467 | 1,656 | 65 | 560 | 16,103 | 1,578 |
| May | [E] 9,116 | [E] 7,368 | 1,647 | 638 | 986 | 16,098 | 1,628 |
| June | [E] 8,976 | [E] 7,282 | 1,616 | -364 | 551 | 16,764 | 1,634 |
| July | [E] 9,019 | [E] 7,326 | 1,608 | -163 | 174 | 16,910 | 1,634 |
| August | [RE] 8,972 | [RE] 7,272 | [R] 1,617 | [R] 91 | [R] 265 | [R] 17,133 | [R] 1,645 |
| September | [PE] 8,993 | [PE] 7,301 | [E] 1,613 | [E] -313 | [E] 406 | [E] 16,906 | [E] 1,666 |
| **9-Month Average** | **[PE] 9,106** | **[PE] 7,383** | **[E] 1,639** | **[E] -15** | **[E] 104** | **[E] 16,579** | **[E] 1,666** |
| **1990 9-Month Average** | **8,939** | **7,333** | **1,527** | **41** | **387** | **17,083** | **1,698** |
| **1989 9-Month Average** | **9,316** | **7,671** | **1,583** | **81** | **176** | **17,155** | **1,667** |

[*] Due to differences internal to Energy Information Administration data processing systems, some small discrepancies exist between the data in this table and the data in the *Petroleum Supply Annual* and *Petroleum Supply Monthly*. See Note 6 at end of section.

[a] A negative number indicates a decrease in stocks and a positive number indicates an increase.

[b] Stocks are totals as of end of period.

[c] Includes crude oil, natural gas plant liquids, other hydrocarbons, and alcohol.

[d] Includes stocks located in the Strategic Petroleum Reserve.

[e] Includes crude oil for storage in the Strategic Petroleum Reserve.

[f] Net imports equals imports minus exports.

[g] In January 1975, 1981, and 1983, numerous respondents were added to surveys affecting stocks reported and stock change calculations. See Note 4 at end of section.

Footnotes continued on following page.

# Table 3.1b Petroleum Overview: Imports, Exports, and Net Imports

| | Imports | | | Exports | | | Net Imports[f] |
|---|---|---|---|---|---|---|---|
| | Total | Crude Oil[e] | Petroleum Products | Total | Crude Oil | Petroleum Products | |
| | Thousand Barrels per Day | | | | | | |
| **1973 Average** | 6,256 | 3,244 | 3,012 | 231 | 2 | 229 | 6,025 |
| **1974 Average** | 6,112 | 3,477 | 2,635 | 221 | 3 | 218 | 5,892 |
| **1975 Average** | 6,056 | 4,105 | 1,951 | 209 | 6 | 204 | 5,846 |
| **1976 Average** | 7,313 | 5,287 | 2,026 | 223 | 8 | 215 | 7,090 |
| **1977 Average** | 8,807 | 6,615 | 2,193 | 243 | 50 | 193 | 8,565 |
| **1978 Average** | 8,363 | 6,356 | 2,008 | 362 | 158 | 204 | 8,002 |
| **1979 Average** | 8,456 | 6,519 | 1,937 | *471 | 235 | *236 | *7,985 |
| **1980 Average** | 6,909 | 5,263 | 1,646 | 544 | 287 | 258 | 6,365 |
| **1981 Average** | 5,996 | 4,396 | 1,599 | 595 | 228 | 367 | 5,401 |
| **1982 Average** | 5,113 | 3,488 | 1,625 | 815 | 236 | 579 | 4,298 |
| **1983 Average** | 5,051 | 3,329 | 1,722 | 739 | 164 | 575 | 4,312 |
| **1984 Average** | 5,437 | 3,426 | 2,011 | 722 | 181 | 541 | 4,715 |
| **1985 Average** | 5,067 | 3,201 | 1,866 | 781 | 204 | 577 | 4,286 |
| **1986 Average** | 6,224 | 4,178 | 2,045 | 785 | 154 | 631 | 5,439 |
| **1987 Average** | 6,678 | 4,674 | 2,004 | 764 | 151 | 613 | 5,914 |
| **1988 Average** | 7,402 | 5,107 | 2,295 | 815 | 155 | 661 | 6,587 |
| **1989** January | 8,255 | 5,661 | 2,594 | 761 | 137 | 624 | 7,494 |
| February | 8,032 | 5,305 | 2,727 | 875 | 208 | 666 | 7,157 |
| March | 7,456 | 5,035 | 2,421 | 860 | 156 | 704 | 6,596 |
| April | 8,078 | 5,750 | 2,328 | 810 | 139 | 670 | 7,268 |
| May | 7,778 | 5,729 | 2,049 | 791 | 131 | 661 | 6,986 |
| June | 7,977 | 5,976 | 2,002 | 975 | 243 | 732 | 7,002 |
| July | 8,369 | 6,214 | 2,155 | 780 | 69 | 711 | 7,589 |
| August | 8,560 | 6,565 | 1,995 | 967 | 162 | 805 | 7,593 |
| September | 8,002 | 6,028 | 1,975 | 655 | 32 | 623 | 7,347 |
| October | 8,301 | 6,187 | 2,115 | 791 | 61 | 730 | 7,511 |
| November | 8,341 | 6,171 | 2,170 | 975 | 120 | 855 | 7,366 |
| December | 7,579 | 5,463 | 2,116 | 1,067 | 247 | 821 | 6,512 |
| **Average** | **8,061** | **5,843** | **2,217** | **859** | **142** | **717** | **7,202** |
| **1990** January | 9,197 | 6,212 | 2,985 | 709 | 132 | 578 | 8,488 |
| February | 8,399 | 5,895 | 2,505 | 822 | 102 | 720 | 7,577 |
| March | 7,965 | 6,117 | 1,848 | 880 | 132 | 748 | 7,084 |
| April | 7,858 | 5,813 | 2,045 | 761 | 111 | 649 | 7,097 |
| May | 8,834 | 6,454 | 2,380 | 690 | 112 | 578 | 8,144 |
| June | 8,747 | 6,423 | 2,323 | 803 | 88 | 715 | 7,944 |
| July | 9,048 | 6,855 | 2,193 | 696 | 89 | 606 | 8,353 |
| August | 8,644 | 6,452 | 2,192 | 850 | 64 | 785 | 7,794 |
| September | 7,361 | 5,664 | 1,698 | 847 | 68 | 779 | 6,514 |
| October | 6,717 | 5,132 | 1,585 | 949 | 104 | 844 | 5,768 |
| November | 7,003 | 5,085 | 1,918 | 1,085 | 137 | 948 | 5,918 |
| December | 6,439 | 4,611 | 1,828 | 1,187 | 162 | 1,026 | 5,252 |
| **Average** | **8,018** | **5,894** | **2,123** | **857** | **109** | **748** | **7,161** |
| **1991** January | 7,066 | 5,303 | 1,763 | 1,199 | 50 | 1,149 | 5,867 |
| February | 6,844 | 5,498 | 1,346 | 1,441 | 153 | 1,288 | 5,403 |
| March | 6,550 | 5,129 | 1,421 | 944 | 136 | 807 | 5,607 |
| April | 7,374 | 5,523 | 1,851 | 737 | 162 | 575 | 6,636 |
| May | 8,496 | 6,387 | 2,109 | 1,149 | 165 | 984 | 7,347 |
| June | 8,177 | 6,317 | 1,860 | 921 | 78 | 843 | 7,256 |
| July | 7,714 | 5,949 | 1,765 | 963 | 139 | 824 | 6,752 |
| August | R8,622 | R6,667 | R1,955 | R837 | R55 | R783 | R7,785 |
| September | E7,975 | E6,164 | E1,811 | E749 | E83 | E666 | E7,226 |
| **9-Month Average** | E7,653 | E5,885 | E1,768 | E991 | E113 | E877 | E6,663 |
| **1990 9-Month Average** | **8,456** | **6,215** | **2,240** | **784** | **100** | **684** | **7,672** |
| **1989 9-Month Average** | **8,057** | **5,811** | **2,246** | **830** | **141** | **689** | **7,227** |

Footnotes continued.

PE=Preliminary estimate. R=Revised data. E=Estimate.

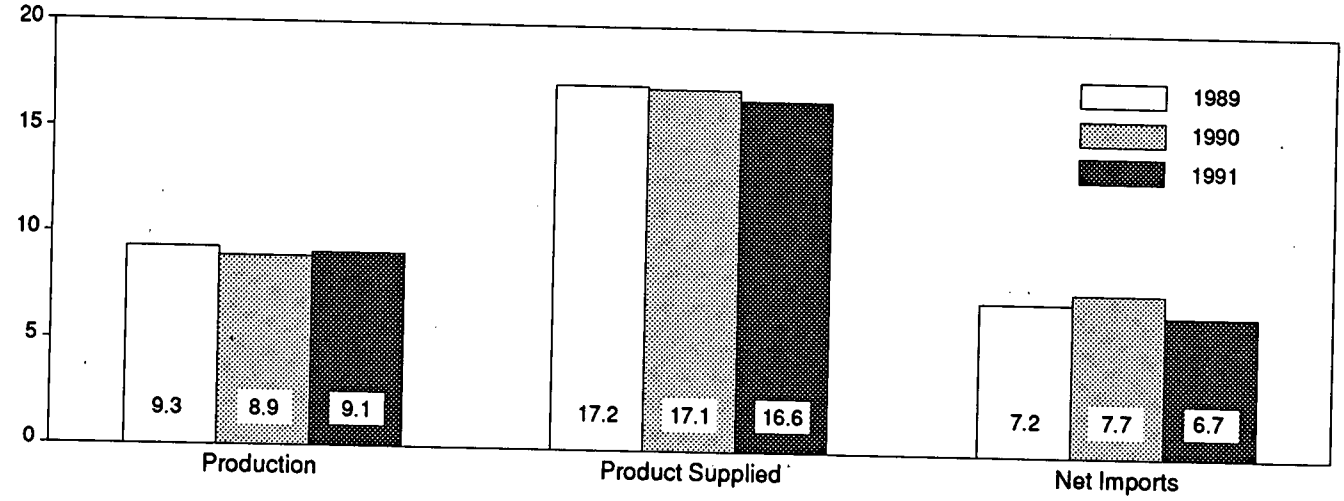
Notes: • Crude oil includes lease condensate. • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

Source: Energy Information Administration, *Petroleum Supply Monthly*, October 1991, Table S1.

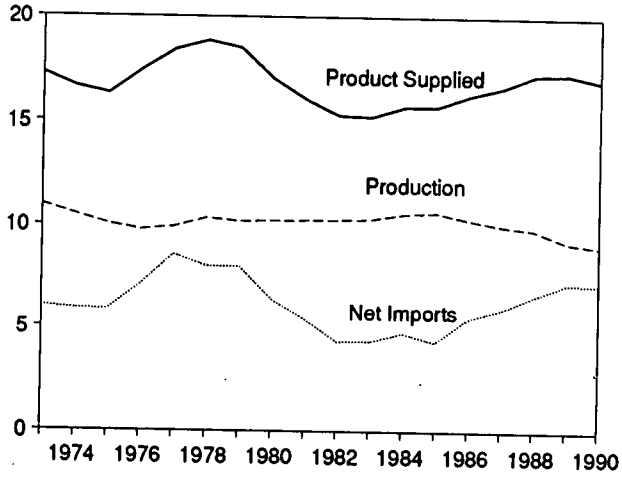
## Figure 3.1 Petroleum Overview

(Million Barrels per Day)

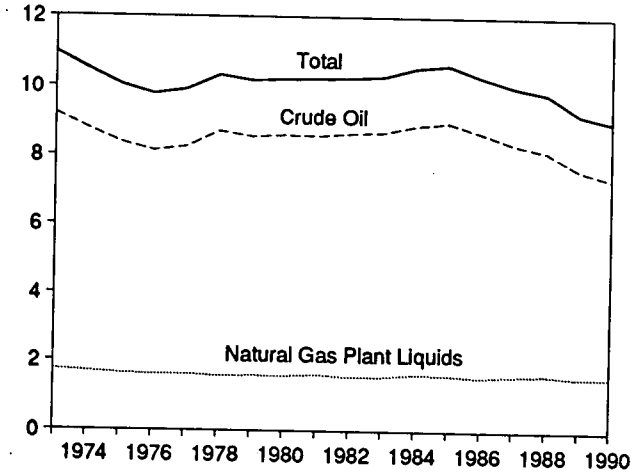
### Overview, January-September



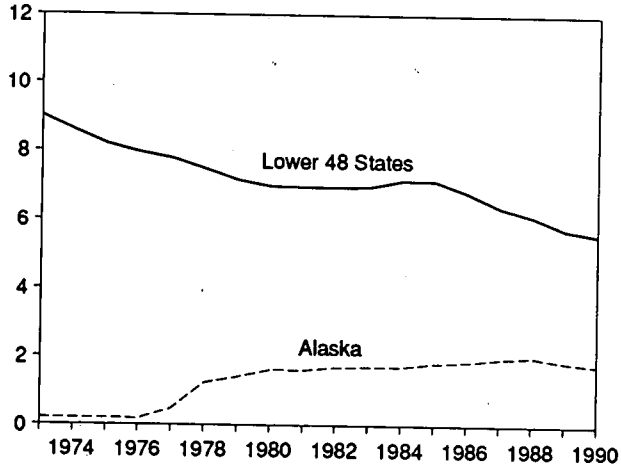

### Overview, 1973-1990



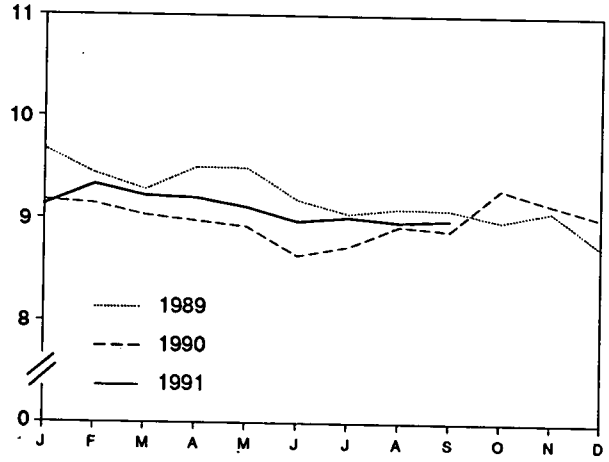

### Production, 1973-1990




### Crude Oil Production, 1973-1990




### Total Production, Monthly

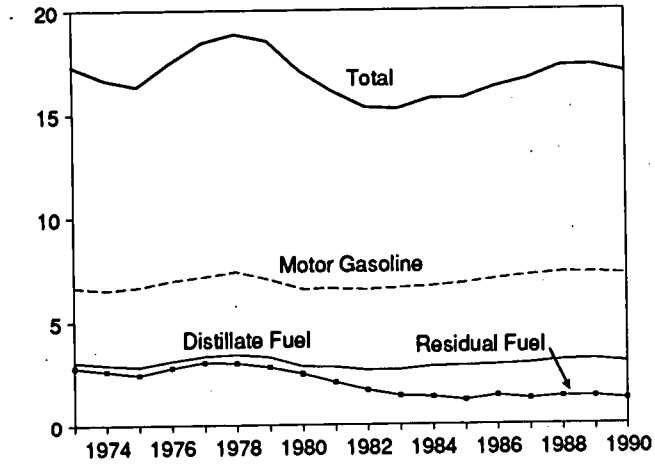



Note: Because vertical scales differ, graphs should not be compared.
Sources: Tables 3.1a, 3.1b, and 3.2a.

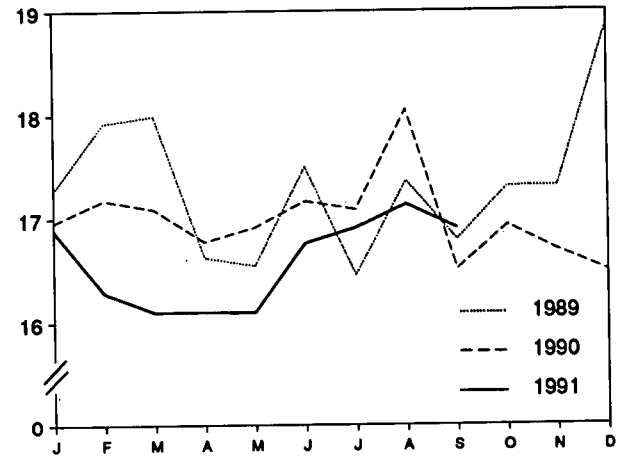
## Figure 3.1 Petroleum Overview (Continued)

(Million Barrels per Day, Except as Noted)

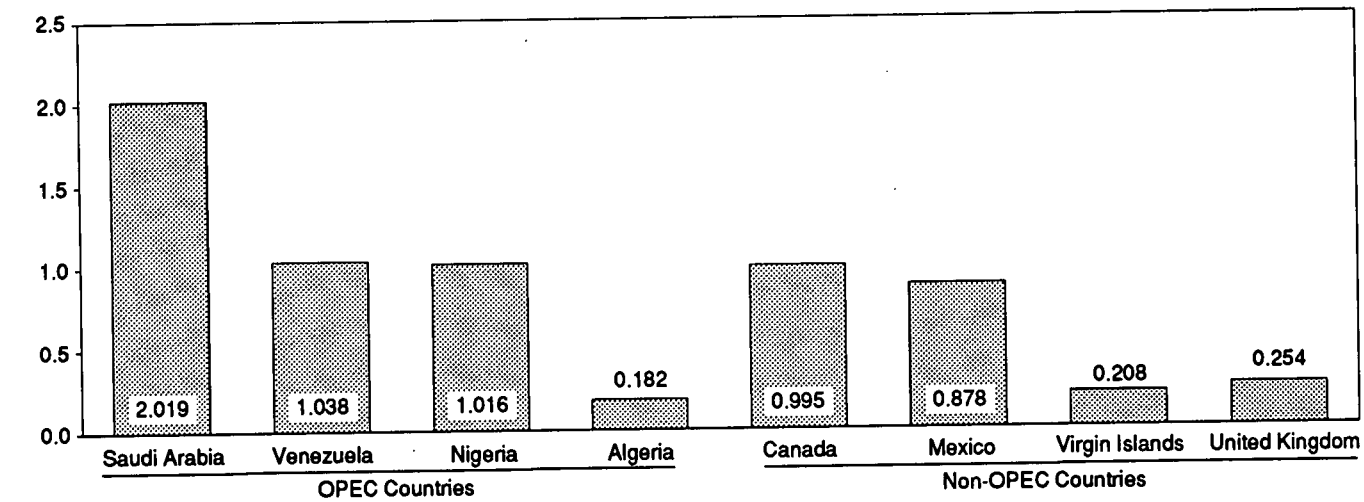
### Product Supplied, 1973-1990



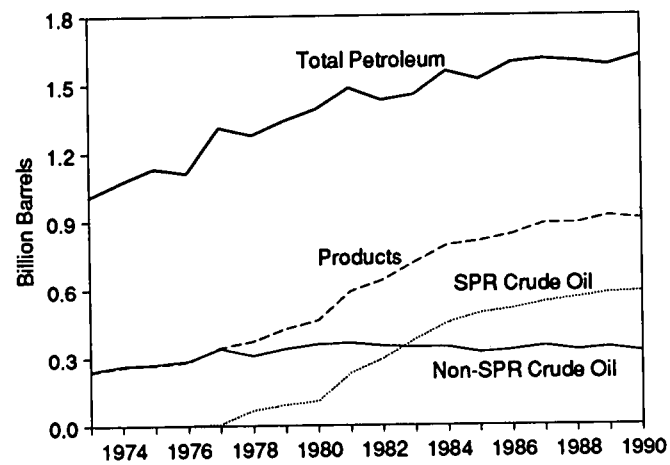

### Total Product Supplied, Monthly



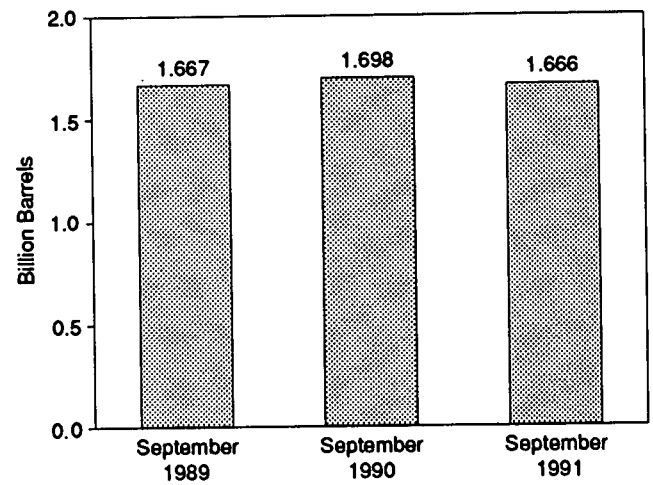

### Imports from Selected Countries, August 1991




### Stocks, End of Year, 1973-1990




### Total Petroleum Stocks, End of Month




Note: OPEC = Organization of Petroleum Exporting Countries.
Note: SPR = Strategic Petroleum Reserve.
Note: Because vertical scales differ, graphs should not be compared.
Sources: Tables 3.1a, 3.2b, 3.3a, 3.3b, 3.3d-3.3h, 3.4, 3.5, and 3.6.

# Table 3.2a Crude Oil Supply and Disposition: Supply

| | Supply | | | | | | |
|---|---|---|---|---|---|---|---|
| | Field Production | | Imports | | | Unaccounted-for Crude Oil[d] | Crude Oil Used Directly[e] |
| | Total Domestic | Alaskan | Total | SPR[c] | Other | | |
| | Thousand Barrels per Day | | | | | | |
| **1973 Average** | **9,208** | **198** | **3,244** | **–** | **3,244** | **3** | **-19** |
| **1974 Average** | **8,774** | **193** | **3,477** | **–** | **3,477** | **-25** | **-15** |
| **1975 Average** | **8,375** | **191** | **4,105** | **–** | **4,105** | **17** | **-17** |
| **1976 Average** | **8,132** | **173** | **5,287** | **–** | **5,287** | **77** | ***-19** |
| **1977 Average** | **8,245** | **464** | **6,615** | **21** | **6,594** | **-6** | **-14** |
| **1978 Average** | **8,707** | **1,229** | **6,356** | ***161** | **6,195** | **-57** | ***-15** |
| **1979 Average** | **8,552** | **1,401** | **6,519** | **67** | **6,452** | **-11** | ***-14** |
| **1980 Average** | **8,597** | **1,617** | **5,263** | **44** | **5,219** | **34** | ***-14** |
| **1981 Average** | **8,572** | **1,609** | **4,396** | **256** | **4,141** | **83** | **-58** |
| **1982 Average** | **8,649** | **1,696** | **3,488** | **165** | **3,323** | **71** | **-59** |
| **1983 Average** | **8,688** | **1,714** | **3,329** | **234** | **3,096** | **114** | **–** |
| **1984 Average** | **8,879** | **1,722** | **3,426** | **197** | **3,229** | **185** | **–** |
| **1985 Average** | **8,971** | **1,825** | **3,201** | **118** | **3,083** | **145** | **–** |
| **1986 Average** | **8,680** | **1,867** | **4,178** | **48** | **4,130** | **139** | **–** |
| **1987 Average** | **8,349** | **1,962** | **4,674** | **73** | **4,601** | **145** | **–** |
| **1988 Average** | **8,140** | **2,017** | **5,107** | **51** | **5,055** | **196** | **–** |
| **1989** January | 7,937 | 1,958 | 5,661 | 65 | 5,596 | 94 | – |
| February | 7,788 | 1,962 | 5,305 | 84 | 5,221 | -26 | – |
| March | 7,575 | 1,686 | 5,035 | 75 | 4,960 | 426 | – |
| April | 7,772 | 1,890 | 5,750 | 59 | 5,690 | 91 | – |
| May | 7,816 | 1,973 | 5,729 | 77 | 5,652 | 280 | – |
| June | 7,624 | 1,861 | 5,976 | 55 | 5,920 | 135 | – |
| July | 7,444 | 1,725 | 6,214 | 75 | 6,139 | 426 | – |
| August | 7,544 | 1,870 | 6,565 | 32 | 6,533 | 213 | – |
| September | 7,548 | 1,875 | 6,028 | 59 | 5,969 | 121 | – |
| October | 7,453 | 1,877 | 6,187 | 37 | 6,149 | -125 | – |
| November | 7,536 | 1,915 | 6,171 | 41 | 6,131 | 397 | – |
| December | 7,337 | 1,904 | 5,463 | 12 | 5,452 | 343 | – |
| **Average** | **7,613** | **1,874** | **5,843** | **56** | **5,787** | **200** | **–** |
| **1990** January | 7,546 | 1,864 | 6,212 | 24 | 6,188 | 178 | – |
| February | 7,497 | 1,834 | 5,895 | 12 | 5,883 | -98 | – |
| March | 7,433 | 1,819 | 6,117 | 44 | 6,073 | 540 | – |
| April | 7,407 | 1,802 | 5,813 | 38 | 5,775 | -9 | – |
| May | 7,328 | 1,765 | 6,454 | 89 | 6,365 | 225 | – |
| June | 7,106 | 1,612 | 6,423 | 17 | 6,407 | 349 | – |
| July | 7,173 | 1,687 | 6,855 | 0 | 6,855 | 150 | – |
| August | 7,287 | 1,727 | 6,452 | 95 | 6,357 | 259 | – |
| September | 7,224 | 1,702 | 5,664 | 0 | 5,664 | 402 | – |
| October | 7,542 | 1,884 | 5,132 | 0 | 5,132 | 382 | – |
| November | 7,387 | 1,746 | 5,085 | 0 | 5,085 | 269 | – |
| December | 7,338 | 1,838 | 4,611 | 0 | 4,611 | 409 | – |
| **Average** | **7,355** | **1,773** | **5,894** | **27** | **5,867** | **258** | **–** |
| **1991** January | E 7,418 | E 1,848 | 5,303 | 0 | 5,303 | -14 | – |
| February | E 7,548 | E 1,908 | 5,498 | 0 | 5,498 | 424 | – |
| March | E 7,481 | E 1,887 | 5,129 | 0 | 5,129 | 134 | – |
| April | E 7,467 | E 1,798 | 5,523 | 0 | 5,523 | 294 | – |
| May | E 7,368 | E 1,771 | 6,387 | 0 | 6,387 | 596 | – |
| June | E 7,282 | E 1,757 | 6,317 | 0 | 6,317 | 47 | – |
| July | E 7,326 | E 1,775 | 5,949 | 0 | 5,949 | 418 | – |
| August | RE 7,272 | RE 1,731 | R 6,667 | 0 | R 6,667 | R 8 | – |
| September | PE 7,301 | PE 1,783 | E 6,164 | E 0 | E 6,164 | E 105 | – |
| **9-Month Average** | **PE 7,383** | **PE 1,805** | **E 5,885** | **E 0** | **E 5,885** | **E 222** | **–** |
| **1990 9-Month Average** | **7,333** | **1,757** | **6,215** | **36** | **6,180** | **225** | **–** |
| **1989 9-Month Average** | **7,671** | **1,866** | **5,811** | **65** | **5,747** | **199** | **–** |

* Due to differences internal to Energy Information Administration data processing systems, some small discrepancies exist between the data in this table and the data in the *Petroleum Supply Annual* and *Petroleum Supply Monthly*. See Note 6 at end of section.

[a] Stocks are totals as of end of period.

[b] A negative number indicates a decrease in stocks and a positive number indicates an increase.

[c] Strategic Petroleum Reserve.

[d] A balancing item.

[e] Beginning in January 1983, crude oil used directly as fuel is shown as product supplied.

[f] Stocks of Alaskan crude oil in transit are included beginning in January 1981. See Note 5 at end of section.

[g] Stock change is calculated by using new basis stock levels. See Note 4 at end of section.

Footnotes continued on following page.

# Table 3.2b Crude Oil Supply and Disposition: Disposition and Ending Stocks

| | Disposition | | | | | | Ending Stocks[a] | | |
|---|---|---|---|---|---|---|---|---|---|
| | Crude Losses | Stock Change[b] SPR[c] | Stock Change[b] Other | Refinery Input | Exports | Product Supplied[e] | Total | SPR[c] | Other Primary |
| | Thousand Barrels per Day | | | | | | Million Barrels | | |
| **1973 Average** | 13 | – | -11 | 12,431 | 2 | – | 242 | – | 242 |
| **1974 Average** | 13 | – | 62 | 12,133 | 3 | – | 265 | – | 265 |
| **1975 Average** | 13 | – | 17 | 12,442 | 6 | – | 271 | – | 271 |
| **1976 Average** | *14 | – | 39 | 13,416 | 8 | – | 285 | – | 285 |
| **1977 Average** | 16 | 20 | 150 | 14,602 | 50 | – | 348 | 7 | 340 |
| **1978 Average** | 16 | 163 | -84 | 14,739 | 158 | – | 376 | 67 | 309 |
| **1979 Average** | 16 | 67 | 81 | 14,648 | 235 | – | 430 | 91 | 339 |
| **1980 Average** | *14 | 45 | 52 | 13,481 | 287 | – | [f]466 | 108 | [f]358 |
| **1981 Average** | 5 | 336 | [f]-46 | 12,470 | 228 | – | 594 | 230 | 363 |
| **1982 Average** | 3 | 174 | -38 | 11,774 | 236 | – | [g]644 | 294 | [g]350 |
| **1983 Average** | 2 | 234 | [g]-20 | 11,685 | 164 | 66 | 723 | 379 | 344 |
| **1984 Average** | 2 | 195 | 4 | 12,044 | 181 | 64 | 796 | 451 | 345 |
| **1985 Average** | 1 | 117 | -67 | 12,002 | 204 | 60 | 814 | 493 | 321 |
| **1986 Average** | (s) | 50 | 28 | 12,716 | 154 | 49 | 843 | 512 | 331 |
| **1987 Average** | (s) | 80 | 49 | 12,854 | 151 | 34 | 890 | 541 | 349 |
| **1988 Average** | (s) | 52 | -51 | 13,246 | 155 | 40 | 890 | 560 | 330 |
| **1989** January | (s) | 65 | 115 | 13,330 | 137 | 47 | 895 | 562 | 334 |
| February | (s) | 85 | -38 | 12,765 | 208 | 48 | 897 | 564 | 333 |
| March | (s) | 75 | -202 | 12,963 | 156 | 45 | 893 | 566 | 327 |
| April | (s) | 60 | 434 | 12,956 | 139 | 23 | 908 | 568 | 340 |
| May | (s) | 77 | 194 | 13,405 | 131 | 19 | 916 | 570 | 346 |
| June | (s) | 44 | -478 | 13,905 | 243 | 20 | 903 | 572 | 331 |
| July | (s) | 86 | 62 | 13,848 | 69 | 19 | 908 | 574 | 333 |
| August | (s) | 32 | 251 | 13,861 | 162 | 17 | 916 | 575 | 341 |
| September | 1 | 59 | -203 | 13,791 | 32 | 18 | 912 | 577 | 335 |
| October | 0 | 37 | 36 | 13,360 | 61 | 21 | 914 | 578 | 336 |
| November | (s) | 41 | 500 | 13,420 | 120 | 25 | 930 | 579 | 351 |
| December | (s) | 12 | -313 | 13,165 | 247 | 33 | 921 | 580 | 341 |
| **Average** | (s) | 56 | 30 | 13,401 | 142 | 28 | 921 | 580 | 341 |
| **1990** January | (s) | 24 | 249 | 13,491 | 132 | 40 | 930 | 581 | 349 |
| February | 0 | 12 | -342 | 13,487 | 102 | 36 | 920 | 581 | 339 |
| March | 0 | 44 | 1,013 | 12,876 | 132 | 24 | 953 | 582 | 371 |
| April | (s) | 38 | -12 | 13,051 | 111 | 24 | 954 | 583 | 370 |
| May | 0 | 89 | 389 | 13,386 | 112 | 30 | 969 | 586 | 383 |
| June | (s) | 16 | 56 | 13,689 | 88 | 29 | 971 | 587 | 384 |
| July | 0 | 0 | -154 | 14,212 | 89 | 31 | 966 | 587 | 379 |
| August | (s) | 94 | -321 | 14,142 | 64 | 18 | 959 | 590 | 370 |
| September | (s) | (s) | -897 | 14,104 | 68 | 14 | 932 | 590 | 343 |
| October | (s) | -8 | 120 | 12,825 | 104 | 15 | 936 | 589 | 346 |
| November | (s) | -111 | -253 | 12,953 | 137 | 13 | 925 | 586 | 339 |
| December | (s) | -10 | -517 | 12,708 | 162 | 15 | 908 | 586 | 323 |
| **Average** | (s) | 16 | -51 | 13,409 | 109 | 24 | 908 | 586 | 323 |
| **1991** January | 0 | 0 | -94 | 12,727 | 50 | 23 | 906 | 586 | 320 |
| February | 0 | -147 | 397 | 13,052 | 153 | 17 | 913 | 582 | 331 |
| March | (s) | -422 | 180 | 12,832 | 136 | 18 | 905 | 568 | 337 |
| April | (s) | 0 | 65 | 13,037 | 162 | 21 | 907 | 568 | 339 |
| May | (s) | 0 | 638 | 13,533 | 165 | 15 | 927 | 568 | 359 |
| June | (s) | (s) | -364 | 13,915 | 78 | 16 | 916 | 568 | 348 |
| July | 0 | (s) | -163 | 13,701 | 139 | 15 | 911 | 569 | 343 |
| August | [R]0 | (s) | [R]91 | [R]13,789 | [R]55 | [R]13 | [R]914 | 569 | [R]345 |
| September | [E](s) | [E](s) | [E]-313 | [E]13,784 | [E]83 | [E]16 | [E]911 | [E]569 | [E]343 |
| **9-Month Average** | [E](s) | [E]-63 | [E]47 | [E]13,376 | [E]113 | [E]17 | [E]911 | [E]569 | [E]343 |
| **1990 9-Month Average** | (s) | 36 | 5 | 13,605 | 100 | 27 | 932 | 590 | 343 |
| **1989 9-Month Average** | (s) | 65 | 17 | 13,431 | 141 | 28 | 912 | 577 | 335 |

Footnotes continued.

PE=Preliminary estimate. R=Revised data. – =Not applicable. E=Estimate. (s)=Less than 500 barrels per day.

Notes: • Crude oil includes lease condensate. • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

Source: Energy Information Administration, *Petroleum Supply Monthly*, October 1991, Table S2.

# Table 3.3a Petroleum Imports: Algeria, Iraq, Kuwait, and Libya

(Thousand Barrels per Day)

| | Arab OPEC[a] | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Algeria | | Iraq | | Kuwait[c] | | Libya | |
| | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil |
| **1973 Average** | 136 | 120 | 4 | 4 | 47 | 42 | 164 | 133 |
| **1974 Average** | 190 | 180 | 0 | 0 | 5 | 5 | 4 | 4 |
| **1975 Average** | 282 | 264 | 2 | 2 | 16 | 4 | 232 | 223 |
| **1976 Average** | 432 | 408 | 26 | 26 | 5 | 1 | 453 | 444 |
| **1977 Average** | 559 | 544 | 74 | 74 | 48 | 42 | 723 | 704 |
| **1978 Average** | 649 | 634 | 62 | 62 | 6 | 5 | 654 | 638 |
| **1979 Average** | 636 | 608 | 88 | 88 | 8 | 5 | 658 | 642 |
| **1980 Average** | 488 | 456 | 28 | 28 | 27 | 27 | 554 | 548 |
| **1981 Average** | 311 | 261 | (s) | 0 | 0 | 0 | 319 | 317 |
| **1982 Average** | 170 | 90 | 3 | 3 | 5 | 2 | 26 | 23 |
| **1983 Average** | 240 | 176 | 10 | 10 | 14 | 7 | 0 | 0 |
| **1984 Average** | 323 | 194 | 12 | 12 | 36 | 24 | 1 | 0 |
| **1985 Average** | 187 | 84 | 46 | 46 | 21 | 4 | 4 | 0 |
| **1986 Average** | 271 | 78 | 81 | 81 | 68 | 28 | 0 | 0 |
| **1987 Average** | 295 | 115 | 83 | 82 | 84 | 70 | 0 | 0 |
| **1988 Average** | 300 | 58 | 345 | 343 | 92 | 80 | 0 | 0 |
| 1989 January | 335 | 93 | 345 | 345 | 32 | 32 | 0 | 0 |
| February | 310 | 62 | 430 | 430 | 79 | 79 | 0 | 0 |
| March | 272 | 40 | 361 | 361 | 0 | 0 | 0 | 0 |
| April | 235 | 75 | 555 | 526 | 0 | 0 | 0 | 0 |
| May | 272 | 34 | 424 | 402 | 64 | 64 | 0 | 0 |
| June | 205 | 30 | 384 | 384 | 309 | 303 | 0 | 0 |
| July | 263 | 43 | 530 | 530 | 334 | 314 | 0 | 0 |
| August | 216 | 77 | 528 | 517 | 348 | 348 | 0 | 0 |
| September | 256 | 58 | 513 | 498 | 271 | 271 | 0 | 0 |
| October | 250 | 74 | 509 | 495 | 191 | 191 | 0 | 0 |
| November | 323 | 71 | 443 | 442 | 148 | 148 | 0 | 0 |
| December | 288 | 60 | 372 | 367 | 105 | 105 | 0 | 0 |
| **Average** | 269 | 60 | 449 | 441 | 157 | 155 | 0 | 0 |
| 1990 January | 413 | 97 | 690 | 657 | 250 | 250 | 0 | 0 |
| February | 282 | 47 | 500 | 488 | 150 | 140 | 0 | 0 |
| March | 301 | 67 | 585 | 580 | 100 | 82 | 0 | 0 |
| April | 234 | 62 | 588 | 588 | 50 | 50 | 0 | 0 |
| May | 259 | 38 | 727 | 724 | 64 | 64 | 0 | 0 |
| June | 333 | 72 | 708 | 708 | 105 | 94 | 0 | 0 |
| July | 308 | 70 | 1,120 | 1,120 | 43 | 33 | 0 | 0 |
| August | 360 | 80 | 966 | 966 | 243 | 207 | 0 | 0 |
| September | 279 | 69 | 318 | 318 | 33 | 33 | 0 | 0 |
| October | 173 | 15 | 0 | 0 | 0 | 0 | 0 | 0 |
| November | 177 | 46 | 0 | 0 | 0 | 0 | 0 | 0 |
| December | 242 | 92 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Average** | 280 | 63 | 518 | 514 | 86 | 79 | 0 | 0 |
| 1991 January | 327 | 63 | 0 | 0 | 0 | 0 | 0 | 0 |
| February | 246 | 38 | 0 | 0 | 0 | 0 | 0 | 0 |
| March | 222 | 76 | 0 | 0 | 0 | 0 | 0 | 0 |
| April | 282 | 90 | 0 | 0 | 0 | 0 | 0 | 0 |
| May | 308 | 87 | 0 | 0 | 0 | 0 | 0 | 0 |
| June | 304 | 70 | 0 | 0 | 0 | 0 | 0 | 0 |
| July | 202 | 44 | 0 | 0 | 0 | 0 | 0 | 0 |
| August | 182 | 16 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8-Month Average** | 259 | 60 | 0 | 0 | 0 | 0 | 0 | 0 |
| **1990 8-Month Average** | 312 | 67 | 739 | 732 | 126 | 115 | 0 | 0 |
| **1989 8-Month Average** | 263 | 57 | 445 | 437 | 146 | 143 | 0 | 0 |

See footnotes at end of Table 3.3h.

# Table 3.3b Petroleum Imports: Qatar, Saudi Arabia, U.A.E., and Total Arab OPEC

(Thousand Barrels per Day)

| | Arab OPEC[a] | | | | | | Total Arab OPEC[a] | |
|---|---|---|---|---|---|---|---|---|
| | Qatar | | Saudi Arabia[c] | | United Arab Emirates | | | |
| | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil |
| **1973 Average** | 7 | 7 | 486 | 462 | 71 | 71 | 915 | 838 |
| **1974 Average** | 17 | 17 | 461 | 438 | 74 | 69 | 752 | 713 |
| **1975 Average** | 18 | 18 | 715 | 701 | 117 | 117 | 1,383 | 1,330 |
| **1976 Average** | 24 | 24 | 1,230 | 1,222 | 254 | 254 | 2,424 | 2,378 |
| **1977 Average** | 67 | 67 | 1,380 | 1,373 | 335 | 333 | 3,185 | 3,136 |
| **1978 Average** | 64 | 64 | 1,144 | 1,142 | 385 | 385 | 2,963 | 2,930 |
| **1979 Average** | 31 | 31 | 1,356 | 1,347 | 281 | 281 | 3,058 | 3,002 |
| **1980 Average** | 22 | 22 | 1,261 | 1,250 | 172 | 172 | 2,551 | 2,503 |
| **1981 Average** | 7 | 7 | 1,129 | 1,112 | 81 | 77 | 1,848 | 1,774 |
| **1982 Average** | 7 | 7 | 552 | 530 | 92 | 81 | 854 | 736 |
| **1983 Average** | (s) | 0 | 337 | 321 | 30 | 18 | 632 | 533 |
| **1984 Average** | 5 | 4 | 325 | 309 | 117 | 90 | 819 | 634 |
| **1985 Average** | (s) | 0 | 168 | 132 | 45 | 35 | 472 | 300 |
| **1986 Average** | 13 | 12 | 685 | 618 | 44 | 38 | 1,162 | 854 |
| **1987 Average** | 0 | 0 | 751 | 642 | 61 | 56 | 1,274 | 965 |
| **1988 Average** | 0 | 0 | 1,073 | 911 | 29 | 23 | 1,839 | 1,415 |
| **1989** January | 0 | 0 | 1,449 | 1,335 | 59 | 59 | 2,219 | 1,863 |
| February | 0 | 0 | 1,290 | 1,177 | 17 | 17 | 2,126 | 1,765 |
| March | 0 | 0 | 1,108 | 1,025 | 64 | 64 | 1,805 | 1,490 |
| April | 0 | 0 | 1,226 | 1,074 | 14 | 14 | 2,030 | 1,689 |
| May | 0 | 0 | 1,155 | 1,056 | 61 | 61 | 1,977 | 1,617 |
| June | 0 | 0 | 1,249 | 1,147 | 17 | 17 | 2,164 | 1,881 |
| July | 0 | 0 | 1,182 | 1,096 | 0 | 0 | 2,308 | 1,982 |
| August | 0 | 0 | 1,316 | 1,159 | 44 | 0 | 2,453 | 2,101 |
| September | 26 | 26 | 1,109 | 1,021 | 20 | 0 | 2,195 | 1,874 |
| October | 0 | 0 | 1,158 | 1,047 | 14 | 14 | 2,122 | 1,819 |
| November | 0 | 0 | 1,342 | 1,230 | 0 | 0 | 2,257 | 1,891 |
| December | 0 | 0 | 1,115 | 1,029 | 26 | 0 | 1,905 | 1,561 |
| **Average** | 2 | 2 | 1,224 | 1,116 | 28 | 21 | 2,130 | 1,794 |
| **1990** January | 0 | 0 | 1,214 | 1,055 | 37 | 0 | 2,605 | 2,060 |
| February | 0 | 0 | 1,557 | 1,372 | 18 | 18 | 2,506 | 2,065 |
| March | 0 | 0 | 1,157 | 1,060 | 17 | 17 | 2,161 | 1,805 |
| April | 43 | 43 | 1,149 | 950 | 9 | 0 | 2,073 | 1,693 |
| May | 0 | 0 | 1,225 | 1,076 | 73 | 60 | 2,349 | 1,963 |
| June | 0 | 0 | 1,153 | 1,041 | 20 | 0 | 2,318 | 1,916 |
| July | 0 | 0 | 1,369 | 1,242 | 13 | 13 | 2,853 | 2,478 |
| August | 0 | 0 | 1,189 | 1,052 | 0 | 0 | 2,757 | 2,305 |
| September | 0 | 0 | 1,286 | 1,168 | 0 | 0 | 1,915 | 1,588 |
| October | 0 | 0 | 1,619 | 1,473 | 0 | 0 | 1,792 | 1,488 |
| November | 0 | 0 | 1,581 | 1,431 | 0 | 0 | 1,758 | 1,477 |
| December | 0 | 0 | 1,587 | 1,431 | 14 | 0 | 1,843 | 1,523 |
| **Average** | 4 | 4 | 1,339 | 1,195 | 17 | 9 | 2,244 | 1,864 |
| **1991** January | 0 | 0 | 1,934 | 1,782 | 0 | 0 | 2,261 | 1,846 |
| February | 0 | 0 | 1,566 | 1,538 | 0 | 0 | 1,812 | 1,576 |
| March | 0 | 0 | 1,623 | 1,586 | 0 | 0 | 1,845 | 1,662 |
| April | 0 | 0 | 1,764 | 1,702 | 0 | 0 | 2,046 | 1,792 |
| May | 0 | 0 | 2,258 | 2,053 | 0 | 0 | 2,566 | 2,140 |
| June | 0 | 0 | 1,841 | 1,795 | 0 | 0 | 2,145 | 1,865 |
| July | 0 | 0 | 1,725 | 1,641 | 0 | 0 | 1,928 | 1,685 |
| August | 0 | 0 | 2,019 | 1,964 | 7 | 0 | 2,208 | 1,980 |
| **8-Month Average** | 0 | 0 | 1,845 | 1,761 | 1 | 0 | 2,105 | 1,821 |
| **1990 8-Month Average** | 5 | 5 | 1,249 | 1,104 | 24 | 14 | 2,454 | 2,037 |
| **1989 8-Month Average** | 0 | 0 | 1,246 | 1,133 | 35 | 29 | 2,136 | 1,799 |

See footnotes at end of Table 3.3h.

# Table 3.3c Petroleum Imports: Ecuador, Gabon, Indonesia, and Iran

(Thousand Barrels per Day)

| | Non-Arab OPEC[a] | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Ecuador | | Gabon | | Indonesia | | Iran | |
| | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil |
| **1973 Average** | 48 | 47 | 0 | 0 | 213 | 200 | 223 | 216 |
| **1974 Average** | 42 | 42 | 23 | 23 | 300 | 284 | 469 | 463 |
| **1975 Average** | 57 | 57 | 27 | 27 | 390 | 379 | 280 | 278 |
| **1976 Average** | 51 | 51 | 28 | 26 | 539 | 537 | 298 | 298 |
| **1977 Average** | 57 | 55 | 42 | 35 | 541 | 507 | 535 | 530 |
| **1978 Average** | 54 | 38 | 41 | 38 | 573 | 533 | 555 | 554 |
| **1979 Average** | 42 | 30 | 42 | 42 | 420 | 380 | 304 | 297 |
| **1980 Average** | 27 | 17 | 26 | 25 | 348 | 314 | 9 | 8 |
| **1981 Average** | 48 | 38 | 35 | 35 | 366 | 318 | 0 | 0 |
| **1982 Average** | 42 | 32 | 40 | 40 | 248 | 226 | 35 | 35 |
| **1983 Average** | 61 | 56 | 59 | 59 | 338 | 315 | 48 | 48 |
| **1984 Average** | 55 | 47 | 58 | 57 | 343 | 304 | 10 | 10 |
| **1985 Average** | 67 | 56 | 52 | 51 | 314 | 292 | 27 | 27 |
| **1986 Average** | 77 | 64 | 26 | 25 | 318 | 297 | 19 | 19 |
| **1987 Average** | 29 | 23 | 35 | 35 | 285 | 262 | 98 | 98 |
| **1988 Average** | 47 | 33 | 16 | 15 | 205 | 186 | [d] (s) | [d] (s) |
| **1989** January | 52 | 46 | 0 | 0 | 218 | 201 | 0 | 0 |
| February | 74 | 67 | 11 | 11 | 292 | 244 | 0 | 0 |
| March | 100 | 85 | 10 | 10 | 167 | 107 | 0 | 0 |
| April | 116 | 111 | 72 | 72 | 128 | 97 | 0 | 0 |
| May | 123 | 112 | 19 | 12 | 264 | 264 | 0 | 0 |
| June | 75 | 75 | 88 | 88 | 138 | 129 | 0 | 0 |
| July | 86 | 86 | 42 | 37 | 113 | 108 | 0 | 0 |
| August | 97 | 79 | 87 | 87 | 115 | 100 | 0 | 0 |
| September | 115 | 109 | 32 | 32 | 113 | 91 | 0 | 0 |
| October | 122 | 105 | 50 | 50 | 167 | 130 | 0 | 0 |
| November | 71 | 62 | 99 | 99 | 231 | 208 | 0 | 0 |
| December | 41 | 23 | 85 | 85 | 263 | 222 | 0 | 0 |
| **Average** | 89 | 80 | 50 | 49 | 183 | 158 | 0 | 0 |
| **1990** January | 48 | 35 | 75 | 75 | 153 | 118 | 0 | 0 |
| February | 60 | 40 | 43 | 43 | 254 | 189 | 0 | 0 |
| March | 49 | 38 | 134 | 134 | 138 | 97 | 0 | 0 |
| April | 31 | 29 | 32 | 28 | 88 | 80 | 0 | 0 |
| May | 17 | 12 | 27 | 27 | 85 | 77 | 0 | 0 |
| June | 98 | 86 | 59 | 59 | 138 | 129 | 0 | 0 |
| July | 60 | 43 | 69 | 69 | 143 | 137 | 0 | 0 |
| August | 81 | 69 | 119 | 119 | 69 | 55 | 0 | 0 |
| September | 43 | 37 | 59 | 59 | 111 | 111 | 0 | 0 |
| October | 49 | 43 | 50 | 50 | 88 | 88 | 0 | 0 |
| November | 13 | 13 | 71 | 71 | 72 | 72 | 0 | 0 |
| December | 35 | 12 | 30 | 30 | 45 | 36 | 0 | 0 |
| **Average** | 49 | 38 | 64 | 64 | 114 | 98 | 0 | 0 |
| **1991** January | 12 | 6 | 41 | 41 | 61 | 61 | 0 | 0 |
| February | 66 | 55 | 95 | 95 | 162 | 153 | 0 | 0 |
| March | 67 | 58 | 29 | 29 | 93 | 93 | 0 | 0 |
| April | 35 | 24 | 72 | 72 | 61 | 61 | 0 | 0 |
| May | 109 | 103 | 96 | 96 | 111 | 111 | 0 | 0 |
| June | 129 | 126 | 70 | 70 | 187 | 187 | 0 | 0 |
| July | 62 | 47 | 137 | 137 | 88 | 88 | 81 | 81 |
| August | 112 | 93 | 56 | 56 | 93 | 87 | 48 | 48 |
| **8-Month Average** | 74 | 64 | 74 | 74 | 106 | 104 | 16 | 16 |
| **1990 8-Month Average** | 55 | 44 | 70 | 70 | 132 | 109 | 0 | 0 |
| **1989 8-Month Average** | 90 | 83 | 41 | 40 | 178 | 156 | 0 | 0 |

See footnotes at end of Table 3.3h.

# Table 3.3d Petroleum Imports: Nigeria, Venezuela, Total Non-Arab OPEC, and Total OPEC

(Thousand Barrels per Day)

| | Non-Arab OPEC[a] | | | | Total Non-Arab OPEC[a] | | Total OPEC[a] | |
|---|---|---|---|---|---|---|---|---|
| | Nigeria | | Venezuela | | | | | |
| | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil |
| **1973 Average** | **459** | **448** | **1,135** | **344** | **2,078** | **1,257** | **2,993** | **2,095** |
| **1974 Average** | **713** | **697** | **979** | **319** | **2,527** | **1,827** | **3,280** | **2,540** |
| **1975 Average** | **762** | **746** | **702** | **395** | **2,219** | **1,882** | **3,601** | **3,211** |
| **1976 Average** | **1,025** | **1,014** | **700** | **241** | **2,642** | **2,167** | **5,066** | **4,545** |
| **1977 Average** | **1,143** | **1,130** | **690** | **250** | **3,008** | **2,507** | **6,193** | **5,643** |
| **1978 Average** | **919** | **910** | **646** | **181** | **2,788** | **2,254** | **5,751** | **5,184** |
| **1979 Average** | **1,080** | **1,069** | **690** | **293** | **2,579** | **2,110** | **5,637** | **5,112** |
| **1980 Average** | **857** | **841** | **481** | **156** | **1,749** | **1,361** | **4,300** | **3,864** |
| **1981 Average** | **620** | **611** | **406** | **147** | **1,476** | **1,149** | **3,323** | **2,922** |
| **1982 Average** | **514** | **510** | **412** | **155** | **1,291** | **998** | **2,146** | **1,734** |
| **1983 Average** | **302** | **301** | **422** | **164** | **1,231** | **944** | **1,862** | **1,477** |
| **1984 Average** | **216** | **207** | **548** | **253** | **1,230** | **878** | **2,049** | **1,512** |
| **1985 Average** | **293** | **280** | **605** | **306** | **1,358** | **1,012** | **1,830** | **1,312** |
| **1986 Average** | **440** | **437** | **793** | **416** | **1,674** | **1,259** | **2,837** | **2,113** |
| **1987 Average** | **535** | **529** | **804** | **488** | **1,787** | **1,435** | **3,060** | **2,400** |
| **1988 Average** | **618** | **607** | **794** | **439** | **1,681** | **1,281** | **3,520** | **2,696** |
| **1989** January | 782 | 782 | 941 | 470 | 1,993 | 1,498 | 4,212 | 3,361 |
| February | 567 | 559 | 775 | 368 | 1,719 | 1,249 | 3,845 | 3,015 |
| March | 702 | 696 | 909 | 468 | 1,888 | 1,366 | 3,693 | 2,856 |
| April | 750 | 722 | 831 | 424 | 1,897 | 1,426 | 3,927 | 3,115 |
| May | 789 | 789 | 853 | 509 | 2,048 | 1,686 | 4,025 | 3,303 |
| June | 864 | 841 | 778 | 486 | 1,943 | 1,619 | 4,106 | 3,500 |
| July | 1,094 | 1,085 | 794 | 447 | 2,130 | 1,764 | 4,437 | 3,746 |
| August | 946 | 932 | 834 | 486 | 2,078 | 1,683 | 4,531 | 3,784 |
| September | 867 | 836 | 914 | 568 | 2,041 | 1,636 | 4,236 | 3,510 |
| October | 713 | 694 | 1,004 | 592 | 2,056 | 1,571 | 4,177 | 3,390 |
| November | 770 | 757 | 924 | 549 | 2,096 | 1,674 | 4,353 | 3,565 |
| December | 915 | 886 | 903 | 561 | 2,206 | 1,777 | 4,111 | 3,338 |
| **Average** | **815** | **800** | **873** | **495** | **2,010** | **1,582** | **4,140** | **3,376** |
| **1990** January | 830 | 830 | 1,155 | 696 | 2,260 | 1,754 | 4,865 | 3,813 |
| February | 833 | 816 | 898 | 564 | 2,088 | 1,652 | 4,594 | 3,717 |
| March | 1,054 | 1,031 | 893 | 543 | 2,268 | 1,843 | 4,429 | 3,648 |
| April | 969 | 941 | 1,005 | 692 | 2,125 | 1,772 | 4,198 | 3,465 |
| May | 1,008 | 997 | 1,087 | 705 | 2,225 | 1,818 | 4,574 | 3,781 |
| June | 778 | 760 | 1,070 | 704 | 2,142 | 1,737 | 4,460 | 3,653 |
| July | 860 | 855 | 1,007 | 665 | 2,139 | 1,769 | 4,992 | 4,246 |
| August | 881 | 881 | 1,014 | 617 | 2,164 | 1,741 | 4,921 | 4,046 |
| September | 755 | 743 | 1,062 | 740 | 2,029 | 1,690 | 3,944 | 3,277 |
| October | 557 | 536 | 982 | 717 | 1,725 | 1,434 | 3,517 | 2,921 |
| November | 574 | 555 | 1,142 | 725 | 1,871 | 1,435 | 3,629 | 2,912 |
| December | 499 | 461 | 975 | 616 | 1,585 | 1,155 | 3,428 | 2,678 |
| **Average** | **800** | **784** | **1,025** | **666** | **2,052** | **1,650** | **4,296** | **3,514** |
| **1991** January | 504 | 481 | 1,021 | 689 | 1,638 | 1,277 | 3,899 | 3,123 |
| February | 721 | 717 | 959 | 686 | 2,003 | 1,705 | 3,815 | 3,282 |
| March | 523 | 523 | 991 | 631 | 1,703 | 1,334 | 3,548 | 2,996 |
| April | 666 | 638 | 846 | 470 | 1,680 | 1,265 | 3,727 | 3,057 |
| May | 860 | 838 | 978 | 581 | 2,153 | 1,728 | 4,719 | 3,868 |
| June | 832 | 827 | 1,019 | 581 | 2,237 | 1,791 | 4,382 | 3,655 |
| July | 836 | 820 | 1,084 | 676 | 2,289 | 1,850 | 4,216 | 3,536 |
| August | 1,016 | 983 | 1,038 | 701 | 2,363 | 1,966 | 4,571 | 3,946 |
| **8-Month Average** | **745** | **728** | **993** | **627** | **2,009** | **1,614** | **4,114** | **3,435** |
| **1990 8-Month Average** | **903** | **890** | **1,017** | **649** | **2,178** | **1,762** | **4,632** | **3,799** |
| **1989 8-Month Average** | **815** | **804** | **841** | **458** | **1,965** | **1,540** | **4,101** | **3,339** |

See footnotes at end of Table 3.3h.

# Table 3.3e Petroleum Imports: Angola, Australia, Bahama Islands, Brazil, Canada, and China

(Thousand Barrels per Day)

| | Non-OPEC[b] | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Angola | | Australia | | Bahama Islands | | Brazil | | Canada | | China | |
| | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil |
| **1973 Average** | **49** | **49** | **2** | **0** | **174** | **0** | **9** | **0** | **1,325** | **1,001** | **(s)** | **0** |
| **1974 Average** | **49** | **48** | **1** | **0** | **164** | **0** | **2** | **0** | **1,070** | **791** | **0** | **0** |
| **1975 Average** | **75** | **71** | **5** | **0** | **152** | **0** | **5** | **0** | **846** | **600** | **0** | **0** |
| **1976 Average** | **12** | **7** | **2** | **0** | **118** | **0** | **0** | **0** | **599** | **371** | **0** | **0** |
| **1977 Average** | **24** | **17** | **3** | **0** | **171** | **0** | **0** | **0** | **517** | **279** | **0** | **0** |
| **1978 Average** | **20** | **6** | **5** | **0** | **160** | **0** | **0** | **0** | **467** | **248** | **0** | **0** |
| **1979 Average** | **43** | **39** | **6** | **0** | **147** | **0** | **1** | **0** | **538** | **271** | **13** | **13** |
| **1980 Average** | **42** | **37** | **1** | **0** | **78** | **0** | **3** | **1** | **455** | **199** | **(s)** | **0** |
| **1981 Average** | **49** | **45** | **5** | **0** | **74** | **0** | **23** | **14** | **447** | **164** | **18** | **0** |
| **1982 Average** | **44** | **42** | **5** | **(s)** | **65** | **0** | **47** | **19** | **482** | **214** | **40** | **8** |
| **1983 Average** | **78** | **71** | **4** | **0** | **125** | **0** | **41** | **2** | **547** | **274** | **34** | **6** |
| **1984 Average** | **90** | **85** | **38** | **25** | **88** | **0** | **60** | **(s)** | **630** | **341** | **46** | **15** |
| **1985 Average** | **110** | **104** | **37** | **21** | **40** | **0** | **61** | **0** | **770** | **468** | **59** | **36** |
| **1986 Average** | **112** | **102** | **41** | **30** | **37** | **0** | **50** | **0** | **807** | **570** | **90** | **68** |
| **1987 Average** | **192** | **180** | **58** | **49** | **37** | **0** | **84** | **0** | **848** | **608** | **82** | **63** |
| **1988 Average** | **212** | **203** | **64** | **59** | **32** | **0** | **98** | **0** | **999** | **681** | **88** | **82** |
| **1989** January | 160 | 160 | 19 | 19 | 53 | 0 | 93 | 0 | 1,065 | 696 | 38 | 38 |
| February | 249 | 237 | 32 | 27 | 24 | 0 | 131 | 0 | 1,007 | 639 | 32 | 26 |
| March | 295 | 285 | 16 | 0 | 41 | 0 | 119 | 0 | 961 | 633 | 25 | 24 |
| April | 256 | 256 | 43 | 41 | 55 | 0 | 76 | 0 | 877 | 599 | 97 | 83 |
| May | 294 | 294 | 12 | 12 | 29 | 0 | 65 | 0 | 901 | 647 | 125 | 119 |
| June | 256 | 245 | 31 | 31 | 28 | 0 | 92 | 0 | 921 | 673 | 66 | 60 |
| July | 305 | 305 | 20 | 20 | 32 | 0 | 80 | 0 | 849 | 596 | 150 | 135 |
| August | 317 | 306 | 39 | 30 | 19 | 0 | 67 | 0 | 911 | 616 | 68 | 67 |
| September | 321 | 321 | 59 | 45 | 8 | 0 | 73 | 0 | 949 | 668 | 87 | 87 |
| October | 335 | 335 | 58 | 53 | 44 | 0 | 66 | 0 | 857 | 590 | 85 | 84 |
| November | 378 | 368 | 76 | 76 | 41 | 0 | 86 | 0 | 911 | 594 | 94 | 94 |
| December | 238 | 238 | 23 | 16 | 29 | 0 | 39 | 0 | 973 | 613 | 90 | 90 |
| **Average** | **284** | **279** | **36** | **31** | **34** | **0** | **82** | **0** | **931** | **630** | **80** | **76** |
| **1990** January | 262 | 262 | 41 | 41 | 80 | 0 | 48 | 0 | 982 | 605 | 121 | 121 |
| February | 346 | 346 | 58 | 55 | 78 | 0 | 45 | 0 | 946 | 585 | 53 | 51 |
| March | 296 | 296 | 41 | 41 | 35 | 0 | 8 | 0 | 850 | 583 | 83 | 83 |
| April | 281 | 281 | 25 | 20 | 51 | 0 | 40 | 0 | 925 | 617 | 80 | 74 |
| May | 235 | 235 | 69 | 69 | 29 | 0 | 114 | 0 | 981 | 654 | 66 | 65 |
| June | 260 | 260 | 44 | 44 | 36 | 0 | 82 | 0 | 942 | 699 | 49 | 43 |
| July | 303 | 303 | 126 | 101 | 25 | 0 | 93 | 0 | 899 | 659 | 132 | 122 |
| August | 134 | 134 | 56 | 33 | 40 | 0 | 45 | 0 | 952 | 676 | 79 | 77 |
| September | 135 | 123 | 57 | 45 | 45 | 0 | 8 | 0 | 924 | 632 | 47 | 42 |
| October | 139 | 139 | 31 | 31 | 9 | 0 | 12 | 0 | 917 | 636 | 85 | 85 |
| November | 238 | 238 | 28 | 28 | 0 | 0 | 74 | 0 | 902 | 645 | 113 | 113 |
| December | 224 | 224 | 64 | 60 | 13 | 0 | 16 | 0 | 987 | 713 | 47 | 47 |
| **Average** | **237** | **236** | **53** | **47** | **37** | **0** | **49** | **0** | **934** | **643** | **80** | **77** |
| **1991** January | 232 | 232 | 21 | 21 | 25 | 0 | 29 | 0 | 967 | 722 | 68 | 63 |
| February | 202 | 202 | 0 | 0 | 14 | 0 | 13 | 0 | 1,123 | 877 | 102 | 96 |
| March | 186 | 186 | 0 | 0 | 0 | 0 | 0 | 0 | 1,051 | 764 | 96 | 96 |
| April | 337 | 337 | 55 | 55 | 35 | 0 | 17 | 0 | 1,092 | 764 | 113 | 113 |
| May | 220 | 220 | 57 | 57 | 42 | 0 | 31 | 0 | 1,022 | 752 | 119 | 113 |
| June | 205 | 205 | 43 | 31 | 30 | 0 | 41 | 0 | 1,081 | 806 | 144 | 139 |
| July | 264 | 264 | 12 | 12 | 19 | 0 | 21 | 0 | 831 | 606 | 88 | 88 |
| August | 298 | 298 | 37 | 22 | 78 | 0 | 27 | 0 | 995 | 687 | 85 | 75 |
| **8-Month Average** | **243** | **243** | **28** | **25** | **31** | **0** | **22** | **0** | **1,018** | **745** | **102** | **98** |
| **1990 8-Month Average** | **264** | **264** | **58** | **51** | **47** | **0** | **60** | **0** | **934** | **635** | **83** | **80** |
| **1989 8-Month Average** | **267** | **261** | **26** | **22** | **35** | **0** | **90** | **0** | **936** | **638** | **76** | **69** |

See footnotes at end of Table 3.3h.

# Table 3.3f Petroleum Imports: Colombia, Italy, Malaysia, Mexico, and Netherlands

(Thousand Barrels per Day)

| | Non-OPEC[b] | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Colombia | | Italy | | Malaysia | | Mexico | | Netherlands | |
| | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil |
| **1973 Average** | **9** | **2** | **125** | **0** | **12** | **1** | **16** | **1** | **53** | **0** |
| **1974 Average** | **5** | **0** | **74** | **0** | **12** | **1** | **8** | **2** | **43** | **0** |
| **1975 Average** | **9** | **0** | **27** | **0** | **8** | **5** | **71** | **70** | **19** | **4** |
| **1976 Average** | **21** | **6** | **39** | **0** | **18** | **16** | **87** | **87** | **8** | **0** |
| **1977 Average** | **17** | **0** | **51** | **0** | **66** | **55** | **179** | **177** | **31** | **4** |
| **1978 Average** | **20** | **0** | **38** | **0** | **42** | **37** | **318** | **316** | **5** | **2** |
| **1979 Average** | **18** | **0** | **30** | **0** | **66** | **52** | **439** | **437** | **23** | **7** |
| **1980 Average** | **4** | **0** | **4** | **0** | **70** | **61** | **533** | **507** | **2** | **(s)** |
| **1981 Average** | **1** | **0** | **11** | **0** | **36** | **33** | **522** | **469** | **30** | **(s)** |
| **1982 Average** | **5** | **0** | **18** | **(s)** | **20** | **18** | **685** | **645** | **35** | **(s)** |
| **1983 Average** | **10** | **0** | **18** | **(s)** | **4** | **3** | **826** | **766** | **65** | **3** |
| **1984 Average** | **8** | **0** | **45** | **(s)** | **1** | **0** | **748** | **659** | **65** | **3** |
| **1985 Average** | **23** | **0** | **60** | **(s)** | **3** | **1** | **816** | **715** | **58** | **0** |
| **1986 Average** | **87** | **57** | **76** | **0** | **12** | **11** | **699** | **621** | **54** | **0** |
| **1987 Average** | **148** | **115** | **54** | **1** | **13** | **12** | **655** | **602** | **60** | **0** |
| **1988 Average** | **134** | **106** | **65** | **5** | **19** | **19** | **747** | **674** | **61** | **0** |
| **1989** January | 261 | 204 | 19 | 0 | 62 | 62 | 809 | 748 | 57 | 0 |
| February | 146 | 105 | 77 | 12 | 10 | 10 | 756 | 706 | 153 | 0 |
| March | 185 | 146 | 59 | 0 | 15 | 15 | 667 | 621 | 30 | 0 |
| April | 168 | 140 | 9 | 0 | 47 | 47 | 1,002 | 941 | 48 | 0 |
| May | 122 | 68 | 26 | 10 | 22 | 22 | 808 | 764 | 31 | 0 |
| June | 139 | 113 | 33 | 0 | 110 | 110 | 688 | 639 | 46 | 0 |
| July | 108 | 71 | 1 | 0 | 16 | 16 | 758 | 708 | 34 | 0 |
| August | 191 | 159 | 30 | 14 | 13 | 13 | 806 | 765 | 32 | 0 |
| September | 163 | 146 | 22 | 0 | 10 | 10 | 721 | 659 | 54 | 0 |
| October | 147 | 116 | 74 | 0 | 28 | 28 | 837 | 760 | 43 | 0 |
| November | 227 | 188 | 42 | 0 | 97 | 97 | 743 | 715 | 33 | 0 |
| December | 199 | 173 | 19 | 0 | 33 | 33 | 610 | 566 | 37 | 0 |
| **Average** | **172** | **136** | **34** | **3** | **39** | **39** | **767** | **716** | **49** | **0** |
| **1990** January | 188 | 146 | 124 | 0 | 14 | 14 | 776 | 691 | 129 | 0 |
| February | 203 | 168 | 76 | 0 | 42 | 38 | 725 | 669 | 80 | 0 |
| March | 177 | 146 | 47 | 0 | 28 | 28 | 815 | 757 | 21 | 0 |
| April | 198 | 143 | 53 | 0 | 38 | 38 | 466 | 414 | 47 | 0 |
| May | 220 | 175 | 101 | 10 | 0 | 0 | 788 | 688 | 63 | 0 |
| June | 180 | 117 | 95 | 0 | 9 | 9 | 912 | 815 | 92 | 0 |
| July | 169 | 111 | 56 | 11 | 20 | 20 | 706 | 651 | 54 | 0 |
| August | 203 | 132 | 43 | 0 | 142 | 142 | 773 | 676 | 39 | 0 |
| September | 97 | 84 | 38 | 0 | 105 | 105 | 871 | 807 | 20 | 0 |
| October | 183 | 159 | 21 | 0 | 78 | 78 | 828 | 793 | 37 | 0 |
| November | 209 | 177 | 32 | 0 | 8 | 8 | 761 | 706 | 49 | 0 |
| December | 161 | 121 | 13 | 0 | 6 | 6 | 637 | 595 | 28 | 0 |
| **Average** | **182** | **140** | **58** | **2** | **41** | **40** | **755** | **689** | **55** | **0** |
| **1991** January | 194 | 174 | 25 | 0 | 0 | 0 | 779 | 759 | 6 | 0 |
| February | 151 | 98 | 42 | 13 | 9 | 9 | 742 | 693 | 8 | 0 |
| March | 157 | 127 | 29 | 0 | 21 | 21 | 791 | 772 | 33 | 0 |
| April | 163 | 131 | 41 | 12 | 0 | 0 | 889 | 819 | 35 | 0 |
| May | 163 | 112 | 60 | 0 | 66 | 66 | 757 | 736 | 45 | 0 |
| June | 169 | 124 | 46 | 0 | 49 | 49 | 919 | 872 | 49 | 0 |
| July | 163 | 111 | 54 | 0 | 9 | 9 | 835 | 748 | 47 | 0 |
| August | 219 | 179 | 57 | 11 | 14 | 14 | 878 | 797 | 30 | 0 |
| **8-Month Average** | **173** | **133** | **44** | **4** | **21** | **21** | **824** | **775** | **32** | **0** |
| **1990 8-Month Average** | **192** | **142** | **74** | **3** | **37** | **36** | **746** | **670** | **65** | **0** |
| **1989 8-Month Average** | **165** | **126** | **31** | **4** | **37** | **37** | **787** | **736** | **53** | **0** |

See footnotes at end of Table 3.3h.

# Table 3.3g Petroleum Imports: Netherlands Antilles, Norway, Puerto Rico, Spain, Trinidad and Tobago, and United Kingdom

(Thousand Barrels per Day)

| | Non-OPEC[b] | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Netherlands Antilles | | Norway | | Puerto Rico | | Spain | | Trinidad and Tobago | | United Kingdom | |
| | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil |
| **1973 Average** | **585** | **0** | **1** | **0** | **99** | **0** | **26** | **0** | **255** | **60** | **15** | **0** |
| **1974 Average** | **511** | **0** | **1** | **1** | **90** | **0** | **12** | **0** | **251** | **63** | **8** | **0** |
| **1975 Average** | **332** | **0** | **17** | **12** | **90** | **0** | **1** | **0** | **242** | **115** | **14** | **(s)** |
| **1976 Average** | **275** | **0** | **36** | **35** | **88** | **0** | **1** | **0** | **274** | **104** | **31** | **13** |
| **1977 Average** | **211** | **0** | **50** | **48** | **105** | **0** | **10** | **0** | **289** | **134** | **126** | **97** |
| **1978 Average** | **229** | **0** | **104** | **104** | **94** | **0** | **3** | **0** | **253** | **142** | **180** | **169** |
| **1979 Average** | **231** | **0** | **75** | **75** | **92** | **0** | **4** | **0** | **190** | **123** | **202** | **197** |
| **1980 Average** | **225** | **0** | **144** | **144** | **88** | **0** | **1** | **0** | **176** | **115** | **176** | **173** |
| **1981 Average** | **197** | **0** | **119** | **114** | **62** | **0** | **1** | **(s)** | **133** | **102** | **375** | **369** |
| **1982 Average** | **175** | **0** | **102** | **102** | **50** | **0** | **3** | **(s)** | **112** | **92** | **456** | **441** |
| **1983 Average** | **189** | **0** | **66** | **65** | **40** | **0** | **2** | **(s)** | **96** | **83** | **382** | **365** |
| **1984 Average** | **188** | **0** | **114** | **112** | **42** | **0** | **11** | **0** | **94** | **87** | **402** | **378** |
| **1985 Average** | **40** | **0** | **32** | **31** | **28** | **0** | **29** | **1** | **113** | **98** | **310** | **278** |
| **1986 Average** | **25** | **0** | **60** | **53** | **21** | **0** | **53** | **0** | **125** | **93** | **350** | **317** |
| **1987 Average** | **29** | **0** | **80** | **70** | **21** | **0** | **55** | **0** | **106** | **75** | **352** | **304** |
| **1988 Average** | **36** | **0** | **67** | **62** | **22** | **0** | **68** | **0** | **97** | **71** | **315** | **254** |
| **1989** January | 59 | 0 | 33 | 33 | 30 | 0 | 101 | 0 | 105 | 79 | 215 | 138 |
| February | 44 | 0 | 233 | 222 | 24 | 0 | 70 | 0 | 92 | 85 | 221 | 130 |
| March | 52 | 0 | 167 | 167 | 38 | 0 | 49 | 0 | 82 | 65 | 174 | 130 |
| April | 14 | 0 | 186 | 175 | 24 | 0 | 56 | 0 | 117 | 99 | 148 | 88 |
| May | 32 | 0 | 184 | 184 | 46 | 0 | 46 | 0 | 68 | 49 | 202 | 169 |
| June | 34 | 0 | 179 | 179 | 32 | 0 | 99 | 0 | 143 | 100 | 181 | 132 |
| July | 49 | 0 | 48 | 35 | 39 | 0 | 51 | 0 | 89 | 47 | 328 | 210 |
| August | 43 | 0 | 117 | 98 | 21 | 0 | 69 | 0 | 101 | 79 | 370 | 316 |
| September | 35 | 0 | 146 | 119 | 33 | 0 | 70 | 0 | 95 | 69 | 191 | 149 |
| October | 38 | 0 | 166 | 143 | 32 | 0 | 38 | 0 | 71 | 71 | 309 | 234 |
| November | 72 | 0 | 155 | 132 | 42 | 0 | 71 | 0 | 91 | 80 | 165 | 141 |
| December | 29 | 0 | 57 | 50 | 24 | 0 | 83 | 0 | 81 | 63 | 78 | 71 |
| **Average** | **42** | **0** | **138** | **127** | **32** | **0** | **67** | **0** | **94** | **73** | **215** | **160** |
| **1990** January | 9 | 0 | 75 | 67 | 35 | 0 | 60 | 0 | 109 | 84 | 219 | 147 |
| February | 27 | 0 | 43 | 37 | 32 | 0 | 53 | 0 | 89 | 67 | 74 | 23 |
| March | 10 | 0 | 50 | 50 | 32 | 0 | 13 | 0 | 103 | 96 | 257 | 221 |
| April | 40 | 0 | 134 | 118 | 33 | 0 | 17 | 0 | 114 | 81 | 304 | 288 |
| May | 20 | 0 | 166 | 166 | 38 | 0 | 87 | 0 | 88 | 58 | 369 | 305 |
| June | 21 | 0 | 209 | 199 | 27 | 0 | 66 | 0 | 118 | 83 | 249 | 233 |
| July | 30 | 0 | 129 | 129 | 35 | 0 | 104 | 0 | 107 | 73 | 224 | 179 |
| August | 41 | 0 | 159 | 159 | 29 | 0 | 54 | 0 | 108 | 91 | 183 | 179 |
| September | 33 | 0 | 125 | 119 | 20 | 0 | 23 | 0 | 89 | 70 | 155 | 155 |
| October | 43 | 0 | 67 | 67 | 29 | 0 | 21 | 0 | 83 | 76 | 81 | 44 |
| November | 46 | 0 | 17 | 17 | 50 | 0 | 25 | 0 | 81 | 73 | 112 | 56 |
| December | 53 | 0 | 43 | 17 | 29 | 0 | 38 | 0 | 62 | 62 | 33 | 19 |
| **Average** | **31** | **0** | **102** | **96** | **32** | **0** | **47** | **0** | **96** | **76** | **189** | **155** |
| **1991** January | 103 | 0 | 45 | 34 | 22 | 0 | 26 | 0 | 75 | 64 | 32 | 19 |
| February | 23 | 0 | 37 | 37 | 20 | 0 | 18 | 0 | 76 | 76 | 34 | 21 |
| March | 56 | 0 | 25 | 16 | 14 | 0 | 13 | 0 | 86 | 73 | 48 | 19 |
| April | 61 | 0 | 43 | 35 | 23 | 0 | 66 | 0 | 84 | 64 | 61 | 37 |
| May | 113 | 0 | 165 | 156 | 42 | 0 | 53 | 0 | 61 | 61 | 222 | 188 |
| June | 84 | 0 | 99 | 84 | 19 | 0 | 41 | 0 | 114 | 104 | 97 | 70 |
| July | 86 | 0 | 69 | 63 | 25 | 0 | 22 | 0 | 91 | 72 | 228 | 164 |
| August | 100 | 0 | 142 | 136 | 42 | 0 | 48 | 0 | 91 | 66 | 254 | 217 |
| **8-Month Average** | **79** | **0** | **79** | **71** | **26** | **0** | **36** | **0** | **85** | **72** | **123** | **93** |
| **1990 8-Month Average** | **25** | **0** | **121** | **116** | **33** | **0** | **57** | **0** | **105** | **79** | **237** | **198** |
| **1989 8-Month Average** | **41** | **0** | **142** | **135** | **32** | **0** | **67** | **0** | **100** | **75** | **230** | **165** |

See footnotes at end of Table 3.3h.

# Table 3.3h Petroleum Imports: U.S.S.R., Virgin Islands, Total Non-OPEC, and Total Imports

(Thousand Barrels per Day)

| | Non-OPEC[b] | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | U.S.S.R. | | Virgin Islands | | Other Non-OPEC | | Total Non-OPEC[b] | | Total Imports | |
| | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil |
| **1973 Average** | **26** | **0** | **329** | **0** | **153** | **36** | **3,263** | **1,149** | **6,256** | **3,244** |
| **1974 Average** | **20** | **0** | **391** | **0** | **122** | **30** | **2,832** | **937** | **6,112** | **3,477** |
| **1975 Average** | **14** | **0** | **406** | **0** | **120** | **14** | **2,454** | **893** | **6,056** | **4,105** |
| **1976 Average** | **11** | **2** | **422** | **0** | **203** | **101** | **2,247** | **742** | **7,313** | **5,287** |
| **1977 Average** | **12** | **2** | **466** | **0** | **287** | **157** | **2,614** | **971** | **8,807** | **6,615** |
| **1978 Average** | **8** | **1** | **428** | **0** | **239** | **146** | **2,612** | **1,172** | **8,363** | **6,356** |
| **1979 Average** | **1** | **0** | **431** | **0** | **269** | **192** | **2,819** | **1,407** | **8,456** | **6,519** |
| **1980 Average** | **1** | **0** | **388** | **0** | **219** | **162** | **2,609** | **1,399** | **6,909** | **5,263** |
| **1981 Average** | **5** | **(s)** | **327** | **0** | **236** | **163** | **2,672** | **1,474** | **5,996** | **4,396** |
| **1982 Average** | **1** | **0** | **316** | **0** | **306** | **174** | **2,968** | **1,754** | **5,113** | **3,488** |
| **1983 Average** | **1** | **(s)** | **282** | **0** | **378** | **215** | **3,189** | **1,853** | **5,051** | **3,329** |
| **1984 Average** | **13** | **(s)** | **294** | **0** | **411** | **210** | **3,388** | **1,914** | **5,437** | **3,426** |
| **1985 Average** | **8** | **(s)** | **247** | **0** | **394** | **137** | **3,237** | **1,888** | **5,067** | **3,201** |
| **1986 Average** | **18** | **(s)** | **244** | **0** | **426** | **144** | **3,387** | **2,065** | **6,224** | **4,178** |
| **1987 Average** | **10** | **0** | **272** | **0** | **459** | **196** | **3,617** | **2,274** | **6,678** | **4,674** |
| **1988 Average** | **29** | **0** | **242** | **0** | **487** | **196** | **3,882** | **2,411** | **7,402** | **5,107** |
| **1989** January | 19 | 0 | 415 | 0 | 429 | 122 | 4,043 | 2,300 | 8,255 | 5,661 |
| February | 12 | 0 | 369 | 0 | 505 | 92 | 4,186 | 2,290 | 8,032 | 5,305 |
| March | 58 | 0 | 324 | 0 | 409 | 93 | 3,763 | 2,179 | 7,456 | 5,035 |
| April | 49 | 0 | 407 | 0 | 473 | 165 | 4,151 | 2,635 | 8,078 | 5,750 |
| May | 27 | 0 | 379 | 0 | 334 | 88 | 3,753 | 2,426 | 7,778 | 5,729 |
| June | 79 | 0 | 363 | 0 | 351 | 195 | 3,871 | 2,476 | 7,977 | 5,976 |
| July | 100 | 0 | 331 | 0 | 544 | 324 | 3,932 | 2,468 | 8,369 | 6,214 |
| August | 43 | 0 | 239 | 0 | 533 | 319 | 4,029 | 2,781 | 8,560 | 6,565 |
| September | 68 | 0 | 190 | 0 | 470 | 244 | 3,766 | 2,517 | 8,002 | 6,028 |
| October | 66 | 0 | 180 | 0 | 651 | 383 | 4,124 | 2,796 | 8,301 | 6,187 |
| November | 48 | 0 | 279 | 0 | 337 | 121 | 3,988 | 2,606 | 8,341 | 6,171 |
| December | 0 | 0 | 377 | 0 | 449 | 213 | 3,468 | 2,126 | 7,579 | 5,463 |
| **Average** | **48** | **0** | **321** | **0** | **457** | **197** | **3,921** | **2,467** | **8,061** | **5,843** |
| **1990** January | 62 | 0 | 409 | 0 | 588 | 220 | 4,332 | 2,399 | 9,197 | 6,212 |
| February | 40 | 0 | 323 | 0 | 471 | 139 | 3,805 | 2,177 | 8,399 | 5,895 |
| March | 0 | 0 | 264 | 0 | 405 | 168 | 3,536 | 2,469 | 7,965 | 6,117 |
| April | 20 | 0 | 283 | 0 | 513 | 275 | 3,660 | 2,348 | 7,858 | 5,813 |
| May | 0 | 0 | 285 | 0 | 541 | 248 | 4,260 | 2,673 | 8,834 | 6,454 |
| June | 19 | 0 | 299 | 0 | 579 | 270 | 4,287 | 2,771 | 8,747 | 6,423 |
| July | 92 | 0 | 252 | 0 | 500 | 251 | 4,057 | 2,609 | 9,048 | 6,855 |
| August | 73 | 0 | 230 | 0 | 340 | 107 | 3,722 | 2,406 | 8,644 | 6,452 |
| September | 49 | 0 | 240 | 0 | 336 | 206 | 3,417 | 2,386 | 7,361 | 5,664 |
| October | 87 | 10 | 204 | 0 | 245 | 92 | 3,199 | 2,210 | 6,717 | 5,132 |
| November | 63 | 0 | 312 | 0 | 254 | 112 | 3,374 | 2,173 | 7,003 | 5,085 |
| December | 34 | 0 | 291 | 0 | 233 | 70 | 3,011 | 1,933 | 6,439 | 4,611 |
| **Average** | **45** | **1** | **282** | **0** | **417** | **180** | **3,721** | **2,381** | **8,018** | **5,894** |
| **1991** January | 28 | 0 | 261 | 0 | 229 | 91 | 3,167 | 2,180 | 7,066 | 5,303 |
| February | 17 | 0 | 222 | 0 | 180 | 96 | 3,030 | 2,217 | 6,844 | 5,498 |
| March | 13 | 0 | 214 | 0 | 169 | 60 | 3,002 | 2,133 | 6,550 | 5,129 |
| April | 33 | 0 | 245 | 0 | 256 | 99 | 3,647 | 2,466 | 7,374 | 5,523 |
| May | 42 | 0 | 264 | 0 | 233 | 58 | 3,777 | 2,519 | 8,496 | 6,387 |
| June | 0 | 0 | 234 | 0 | 330 | 179 | 3,795 | 2,662 | 8,177 | 6,317 |
| July | 58 | 0 | 191 | 0 | 384 | 275 | 3,498 | 2,414 | 7,714 | 5,949 |
| August | 80 | 23 | 208 | 0 | 369 | 197 | 4,052 | 2,721 | [R]8,622 | [R]6,667 |
| **8-Month Average** | **34** | **3** | **230** | **0** | **270** | **132** | **3,500** | **2,415** | **7,614** | **5,850** |
| **1990 8-Month Average** | **38** | **0** | **293** | **0** | **492** | **210** | **3,959** | **2,485** | **8,591** | **6,284** |
| **1989 8-Month Average** | **49** | **0** | **353** | **0** | **447** | **176** | **3,963** | **2,445** | **8,064** | **5,785** |

[a] Excludes petroleum imported into the United States indirectly from members of the Organization of Petroleum Exporting Countries (OPEC), primarily from Caribbean and West European areas, as petroleum products that were refined from crude oil produced by OPEC.

[b] Includes petroleum imported into the United States indirectly from members of the Organization of Petroleum Exporting Countries (OPEC), primarily from Caribbean and West European areas, as petroleum products that were refined from crude oil produced by OPEC.

[c] Imports from the Neutral Zone between Kuwait and Saudi Arabia are included in Saudi Arabia.

[d] A small amount of Iranian crude oil entered the United States in January 1988 from the Virgin Islands. The oil originated in Iran and was exported to the Virgin Islands prior to the signing of Executive Order 12613 on October 29, 1987.

R=Revised data. (s)=Less than 500 barrels per day.

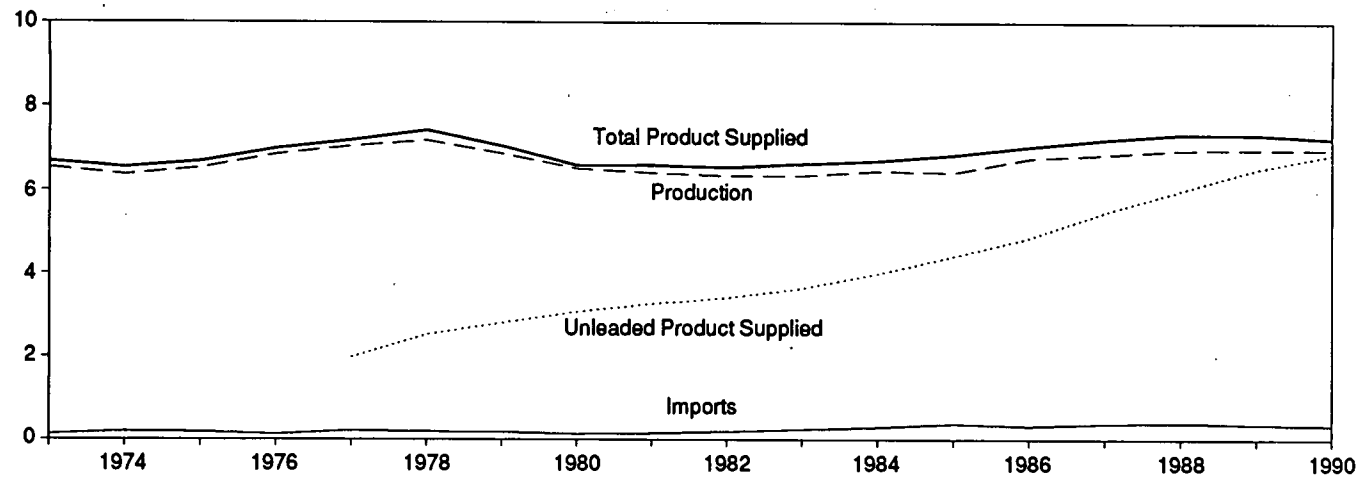
Notes: • Beginning in October 1977, Strategic Petroleum Reserve imports are included. • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

Source: Energy Information Administration, *Petroleum Supply Monthly*, October 1991, Table S3.

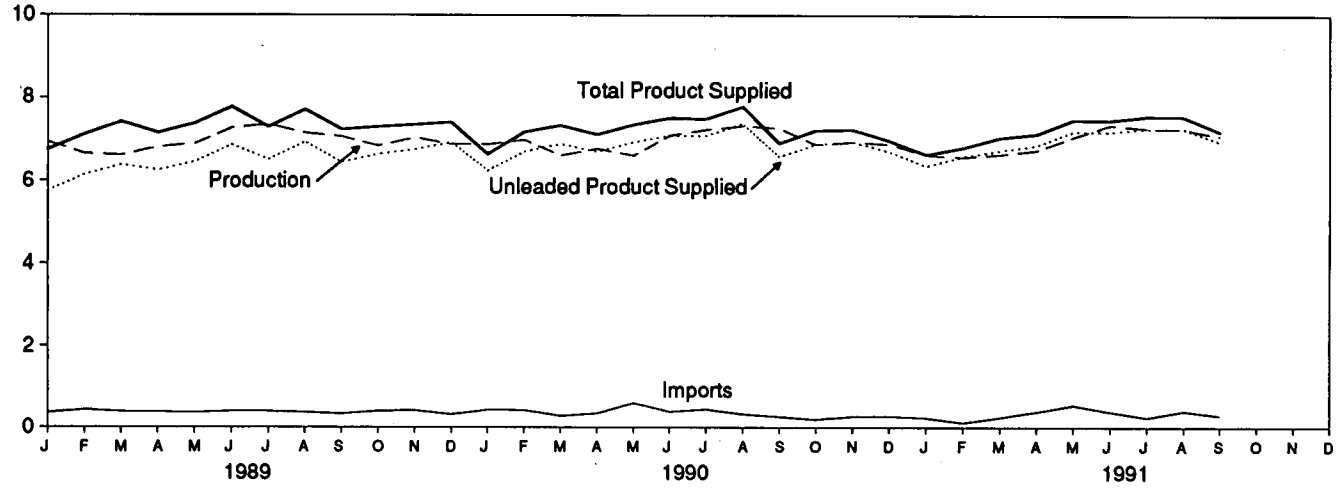
## Figure 3.2 Finished Motor Gasoline

(Million Barrels per Day, Except as Noted)

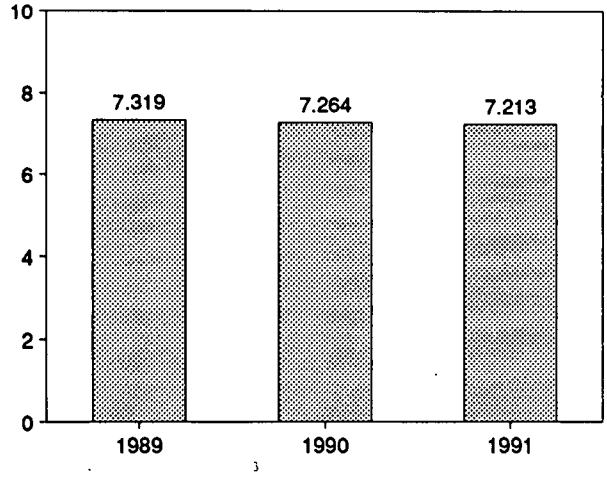
### Overview, 1973-1990



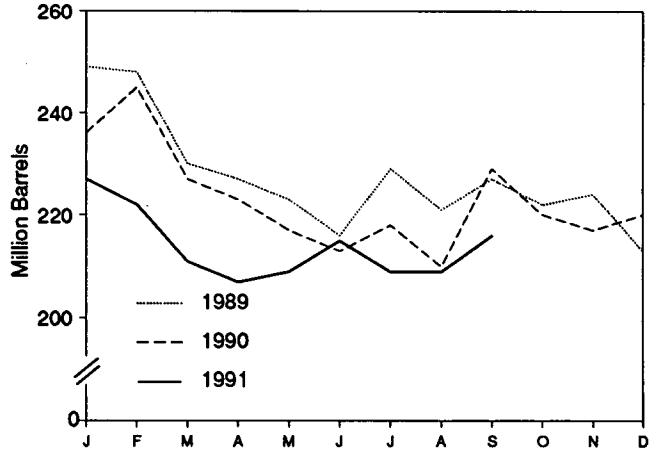

### Overview, Monthly




### Total Product Supplied, January-September




### Total Stocks, End of Month




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 3.4.

# Table 3.4 Finished Motor Gasoline Supply and Disposition

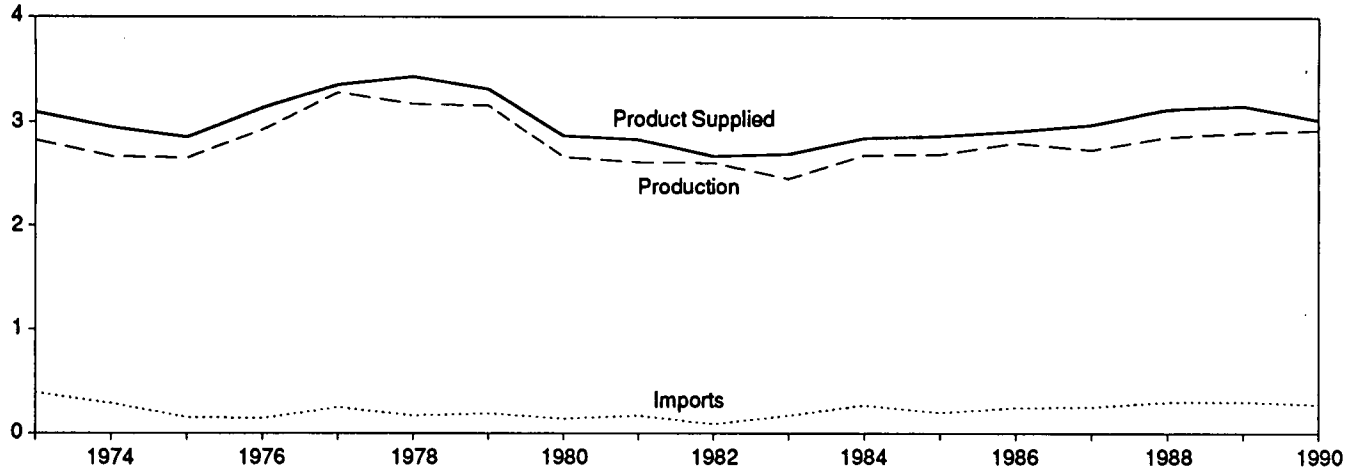
| | Supply | | Disposition | | | | | Ending Stocks[a] | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | Product Supplied | | | | |
| | Total Production | Imports[b] | Stock Change[b,c] | Exports | Total | Unleaded[d] | Unleaded | Total Motor Gasoline[e] | Finished Motor Gasoline |
| | Thousand Barrels per Day | | | | | | Percent of Total | Million Barrels | |
| **1973 Average** | **6,535** | **134** | **-9** | **4** | **6,674** | **–** | **–** | **209** | **–** |
| **1974 Average** | **6,360** | **204** | **24** | **2** | **6,537** | **–** | **–** | **f218** | **–** |
| **1975 Average** | **6,520** | **184** | **f28** | **2** | **6,675** | **–** | **–** | **235** | **–** |
| **1976 Average** | **6,841** | **131** | **-10** | **3** | **6,978** | **–** | **–** | **231** | **–** |
| **1977 Average** | **7,033** | **217** | **72** | **2** | **7,177** | **1,976** | **27.5** | **258** | **–** |
| **1978 Average** | **7,169** | **190** | **-54** | **1** | **7,412** | **2,521** | **34.0** | **238** | **–** |
| **1979 Average** | **6,852** | **181** | **-2** | **(s)** | **7,034** | **2,798** | **39.8** | **237** | **–** |
| **1980 Average** | **6,506** | **140** | **66** | **1** | **6,579** | **3,067** | **46.6** | **f261** | **–** |
| **1981 Average[g]** | **6,405** | **157** | **f-28** | **2** | **6,588** | **3,264** | **49.5** | **253** | **203** |
| **1982 Average** | **6,338** | **197** | **-25** | **20** | **6,539** | **3,409** | **52.1** | **f235** | **f194** |
| **1983 Average** | **6,340** | **247** | **f-45** | **10** | **6,622** | **3,647** | **55.1** | **222** | **186** |
| **1984 Average** | **6,453** | **299** | **54** | **6** | **6,693** | **3,987** | **59.6** | **243** | **205** |
| **1985 Average** | **6,419** | **381** | **-41** | **10** | **6,831** | **4,406** | **64.5** | **223** | **190** |
| **1986 Average** | **6,752** | **326** | **11** | **33** | **7,034** | **4,854** | **69.0** | **233** | **194** |
| **1987 Average** | **6,841** | **384** | **-15** | **35** | **7,206** | **5,470** | **75.9** | **226** | **189** |
| **1988 Average** | **6,956** | **405** | **3** | **22** | **7,336** | **5,995** | **81.7** | **228** | **190** |
| **1989** January | 6,937 | 353 | 512 | 33 | 6,745 | 5,754 | 85.3 | 249 | 206 |
| February | 6,650 | 423 | -70 | 24 | 7,119 | 6,141 | 86.3 | 248 | 204 |
| March | 6,612 | 381 | -471 | 43 | 7,421 | 6,380 | 86.0 | 230 | 189 |
| April | 6,811 | 370 | -22 | 46 | 7,157 | 6,248 | 87.3 | 227 | 188 |
| May | 6,894 | 355 | -163 | 31 | 7,381 | 6,454 | 87.5 | 223 | 183 |
| June | 7,275 | 386 | -180 | 60 | 7,780 | 6,864 | 88.2 | 216 | 178 |
| July | 7,360 | 383 | 390 | 57 | 7,296 | 6,509 | 89.2 | 229 | 190 |
| August | 7,155 | 360 | -260 | 58 | 7,717 | 6,934 | 89.8 | 221 | 182 |
| September | 7,069 | 320 | 118 | 31 | 7,240 | 6,443 | 89.0 | 227 | 186 |
| October | 6,845 | 389 | -97 | 29 | 7,302 | 6,642 | 91.0 | 222 | 183 |
| November | 7,046 | 406 | 81 | 18 | 7,353 | 6,756 | 91.9 | 224 | 185 |
| December | 6,884 | 306 | -257 | 37 | 7,410 | 6,927 | 93.5 | 213 | 177 |
| **Average** | **6,963** | **369** | **-35** | **39** | **7,328** | **6,507** | **88.8** | **213** | **177** |
| **1990** January | 6,879 | 417 | 621 | 31 | 6,643 | 6,246 | 94.0 | 236 | 196 |
| February | 6,989 | 411 | 169 | 53 | 7,179 | 6,703 | 93.4 | 245 | 201 |
| March | 6,613 | 270 | -499 | 45 | 7,338 | 6,894 | 93.9 | 227 | 186 |
| April | 6,775 | 328 | -45 | 28 | 7,121 | 6,704 | 94.1 | 223 | 184 |
| May | 6,610 | 585 | -189 | 25 | 7,358 | 6,937 | 94.3 | 217 | 178 |
| June | 7,101 | 376 | -93 | 52 | 7,519 | 7,099 | 94.4 | 213 | 176 |
| July | 7,238 | 432 | 133 | 41 | 7,496 | 7,090 | 94.6 | 218 | 180 |
| August | 7,326 | 313 | -233 | 77 | 7,796 | 7,383 | 94.7 | 210 | 172 |
| September | 7,274 | 254 | 511 | 103 | 6,914 | 6,589 | 95.3 | 229 | 188 |
| October | 6,880 | 192 | -244 | 90 | 7,226 | 6,883 | 95.3 | 220 | 180 |
| November | 6,940 | 259 | -108 | 66 | 7,241 | 6,940 | 95.8 | 217 | 177 |
| December | 6,887 | 264 | 119 | 53 | 6,978 | 6,713 | 96.2 | 220 | 181 |
| **Average** | **6,959** | **342** | **10** | **55** | **7,235** | **6,850** | **94.7** | **220** | **181** |
| **1991** January | 6,629 | 227 | 164 | 50 | 6,643 | 6,361 | 95.8 | 227 | 187 |
| February | 6,573 | 106 | -229 | 102 | 6,806 | 6,592 | 96.9 | 222 | 181 |
| March | 6,642 | 235 | -267 | 97 | 7,047 | 6,737 | 95.6 | 211 | 173 |
| April | 6,742 | 371 | -77 | 53 | 7,137 | 6,860 | 96.1 | 207 | 170 |
| May | 7,063 | 528 | 56 | 59 | 7,475 | 7,195 | 96.3 | 209 | 172 |
| June | 7,351 | 371 | 159 | 99 | 7,465 | 7,193 | 96.4 | 215 | 177 |
| July | 7,278 | 232 | -173 | 122 | 7,561 | 7,271 | 96.2 | 209 | 171 |
| August | R7,257 | R385 | R-10 | R98 | R7,555 | R7,271 | R96.2 | R209 | R171 |
| September | E7,091 | E276 | E116 | E54 | E7,198 | E6,948 | E96.5 | E216 | E177 |
| **9-Month Average** | **E6,962** | **E305** | **E-28** | **E81** | **E7,213** | **E6,939** | **E96.2** | **E216** | **E177** |
| **1990 9-Month Average** | **6,978** | **376** | **39** | **51** | **7,264** | **6,852** | **94.3** | **229** | **188** |
| **1989 9-Month Average** | **6,976** | **370** | **-16** | **43** | **7,319** | **6,416** | **87.7** | **227** | **186** |

[a] Stocks are totals as of end of period.
[b] Beginning in 1981, excludes blending components.
[c] A negative number indicates a decrease in stocks and a positive number indicates an increase.
[d] Includes gasohol.
[e] Includes motor gasoline blending components.
[f] In January 1975, 1981, and 1983, numerous respondents were added to surveys, thereby affecting stocks reported and stock change calculations. See Note 4 at end of section.
[g] Beginning in January 1981, survey forms were modified. See Notes 1 and 2 at end of section.
R=Revised data. – =Not applicable. E=Estimate. (s)=Less than 500 barrels per day.
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.
Source: Energy Information Administration, *Petroleum Supply Monthly*, October 1991, Table S4.

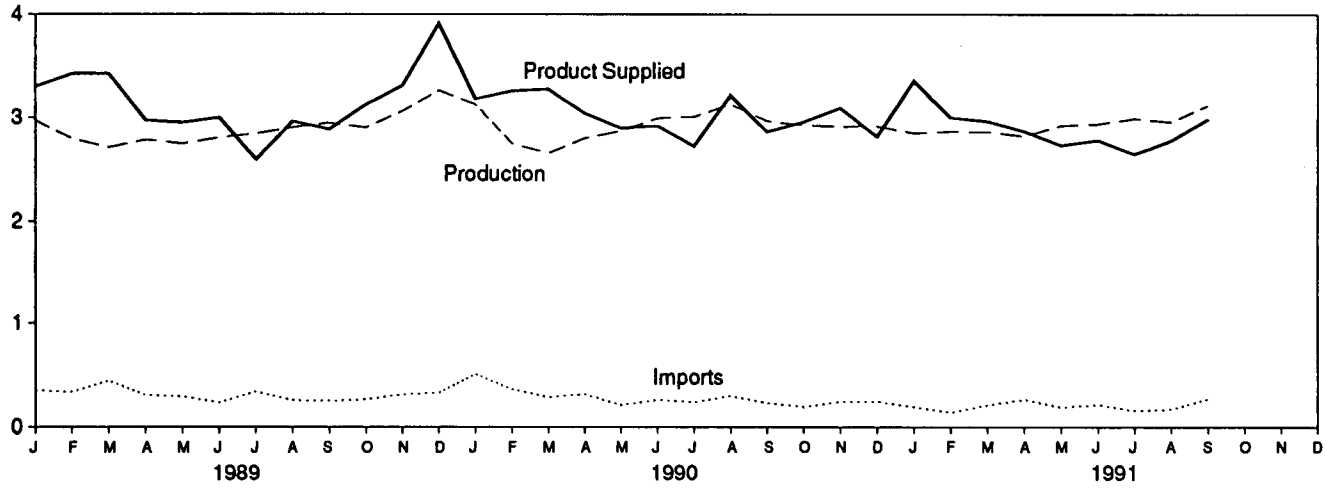
## Figure 3.3 Distillate Fuel

(Million Barrels per Day, Except as Noted)

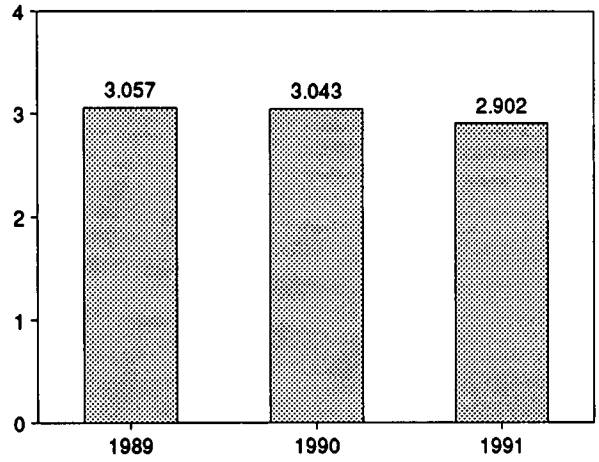
### Overview, 1973-1990



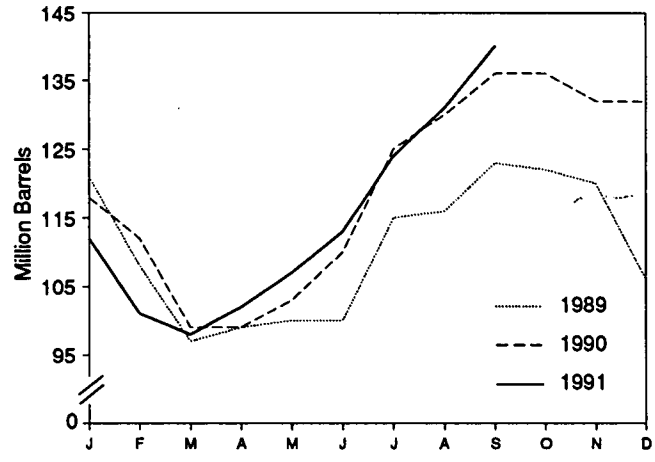

### Overview, Monthly




### Product Supplied, January-September




### Stocks, End of Month




Source: Table 3.5.

# Table 3.5 Distillate Fuel Oil Supply and Disposition

| | Supply | | | Disposition | | | |
|---|---|---|---|---|---|---|---|
| | Total Production | Imports | Crude Used Directly[a] | Stock Change[b] | Exports | Product Supplied[a] | Ending Stocks[c] |
| | Thousand Barrels per Day | | | | | | Million Barrels |
| **1973 Average** | **2,822** | **392** | **2** | **115** | **9** | **3,092** | **196** |
| **1974 Average** | **2,669** | **289** | **2** | ***10** | **2** | **2,948** | **[d]200** |
| **1975 Average** | **2,654** | **155** | **2** | **[d]*-41** | **1** | **2,851** | **209** |
| **1976 Average** | **2,924** | **146** | **1** | **-62** | **1** | **3,133** | **186** |
| **1977 Average** | **3,278** | **250** | **1** | **176** | **1** | **3,352** | **250** |
| **1978 Average** | **3,167** | **173** | **1** | **-93** | **3** | **3,432** | **216** |
| **1979 Average** | **3,153** | **193** | **1** | **34** | **3** | **3,311** | **229** |
| **1980 Average** | **2,662** | **142** | **1** | **-64** | **3** | **2,866** | **[d]205** |
| **1981 Average[e]** | **2,613** | **173** | **10** | **[d]-38** | **5** | **2,829** | **192** |
| **1982 Average** | **2,606** | **93** | **10** | **-35** | **74** | **2,671** | **[d]179** |
| **1983 Average** | **2,456** | **174** | **–** | **[d]-124** | **64** | **2,690** | **140** |
| **1984 Average** | **2,681** | **272** | **–** | **57** | **51** | **2,845** | **161** |
| **1985 Average** | **2,687** | **200** | **–** | **-48** | **67** | **2,868** | **144** |
| **1986 Average** | **2,798** | **247** | **–** | **31** | **100** | **2,914** | **155** |
| **1987 Average** | **2,731** | **255** | **–** | **-56** | **66** | **2,976** | **134** |
| **1988 Average** | **2,859** | **302** | **–** | **-30** | **69** | **3,122** | **124** |
| **1989** January | 2,974 | 346 | – | -93 | 110 | 3,303 | 121 |
| February | 2,797 | 331 | – | -463 | 164 | 3,427 | 108 |
| March | 2,713 | 439 | – | -352 | 76 | 3,428 | 97 |
| April | 2,789 | 301 | – | 60 | 56 | 2,975 | 99 |
| May | 2,750 | 290 | – | 35 | 51 | 2,954 | 100 |
| June | 2,809 | 233 | – | (s) | 39 | 3,002 | 100 |
| July | 2,848 | 334 | – | 498 | 89 | 2,596 | 115 |
| August | 2,907 | 254 | – | 41 | 154 | 2,966 | 116 |
| September | 2,952 | 249 | – | 231 | 81 | 2,889 | 123 |
| October | 2,906 | 261 | – | -50 | 90 | 3,127 | 122 |
| November | 3,063 | 307 | – | -64 | 123 | 3,311 | 120 |
| December | 3,266 | 324 | – | -454 | 130 | 3,914 | 106 |
| **Average** | **2,899** | **306** | **–** | **-49** | **97** | **3,157** | **106** |
| **1990** January | 3,130 | 505 | – | 388 | 62 | 3,185 | 118 |
| February | 2,753 | 357 | – | -215 | 65 | 3,260 | 112 |
| March | 2,657 | 281 | – | -415 | 75 | 3,277 | 99 |
| April | 2,803 | 308 | – | 9 | 59 | 3,043 | 99 |
| May | 2,874 | 209 | – | 108 | 75 | 2,900 | 103 |
| June | 2,996 | 257 | – | 246 | 84 | 2,923 | 110 |
| July | 3,008 | 236 | – | 487 | 30 | 2,726 | 125 |
| August | 3,131 | 293 | – | 156 | 51 | 3,218 | 130 |
| September | 2,968 | 226 | – | 207 | 123 | 2,864 | 136 |
| October | 2,928 | 190 | – | 8 | 150 | 2,960 | 136 |
| November | 2,915 | 238 | – | -129 | 188 | 3,094 | 132 |
| December | 2,917 | 239 | – | -7 | 347 | 2,816 | 132 |
| **Average** | **2,925** | **278** | **–** | **73** | **109** | **3,021** | **132** |
| **1991** January | 2,851 | 190 | – | -648 | 332 | 3,356 | 112 |
| February | 2,867 | 138 | – | -388 | 393 | 3,000 | 101 |
| March | 2,862 | 206 | – | -96 | 198 | 2,966 | 98 |
| April | 2,822 | 258 | – | 130 | 81 | 2,869 | 102 |
| May | 2,924 | 185 | – | 156 | 218 | 2,735 | 107 |
| June | 2,940 | 209 | – | 216 | 150 | 2,783 | 113 |
| July | 2,992 | 153 | – | 348 | 149 | 2,649 | 124 |
| August | [R]2,959 | [R]167 | – | [R]203 | [R]144 | [R]2,779 | 131 |
| September | [E]3,120 | [E]263 | – | [E]302 | [E]95 | [E]2,987 | [E]140 |
| **9-Month Average** | **[E]2,927** | **[E]197** | **–** | **[E]27** | **[E]194** | **[E]2,902** | **[E]140** |
| **1990 9-Month Average** | **2,926** | **297** | **–** | **111** | **69** | **3,043** | **136** |
| **1989 9-Month Average** | **2,838** | **309** | **–** | **-1** | **91** | **3,057** | **123** |

* Due to differences internal to Energy Information Administration data processing systems, some small discrepancies exist between the data in this table and the data in the *Petroleum Supply Annual* and *Petroleum Supply Monthly*. See Note 6 at end of section.

[a] Beginning in January 1983, product supplied for distillate fuel oil does not include crude oil used directly.

[b] A negative number indicates a decrease in stocks and a positive number indicates an increase.

[c] Stocks are totals as of end of period.

[d] In January 1975, 1981, and 1983, numerous respondents were added to surveys, thereby affecting stocks reported and stock change calculations. See Note 4 at end of section. Due to a rounding difference, the 1975 stock change value is -40 in the *Petroleum Supply Annual* and the *Petroleum Supply Monthly*.

[e] Beginning in January 1981, survey forms were modified. See Note 1 at end of section.

R=Revised data. – =Not applicable. E=Estimate. (s)=Less than 500 barrels per day.

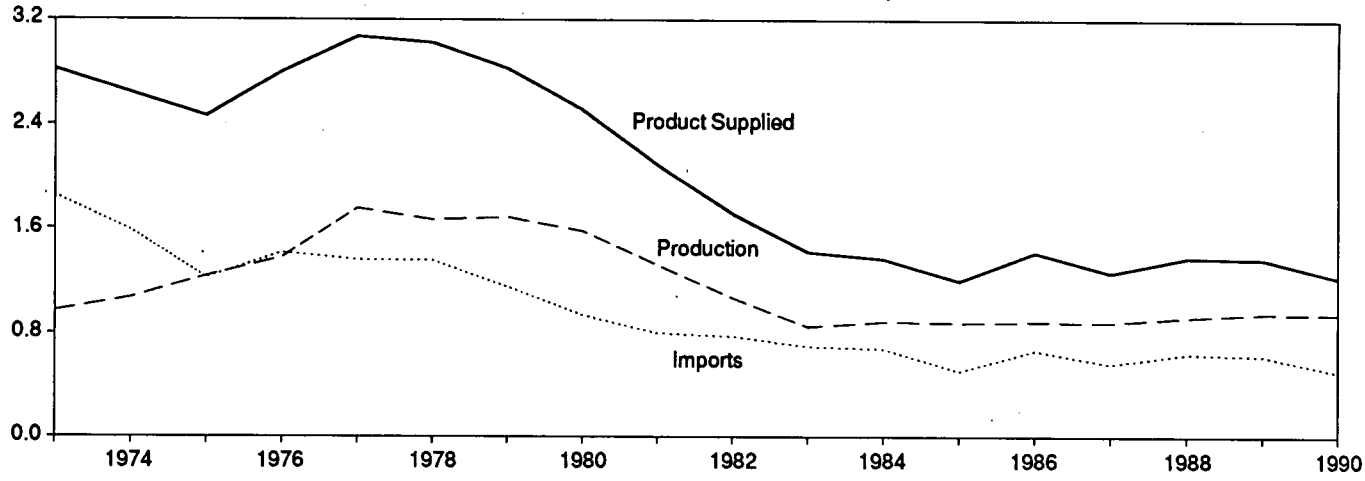
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

Source: Energy Information Administration, *Petroleum Supply Monthly*, October 1991, Table S5.

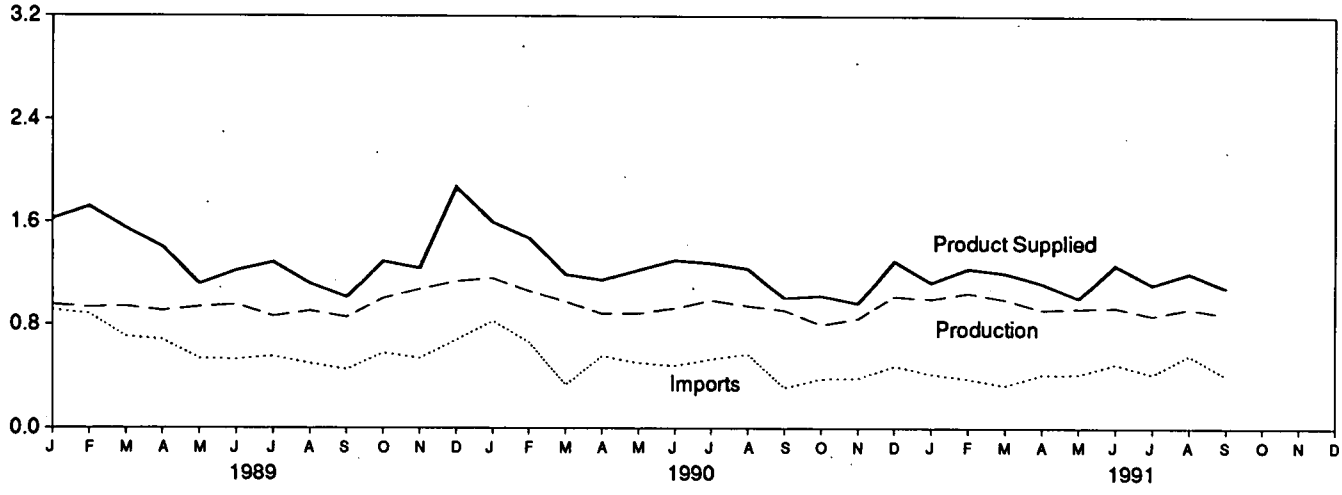
## Figure 3.4 Residual Fuel

(Million Barrels per Day, Except as Noted)

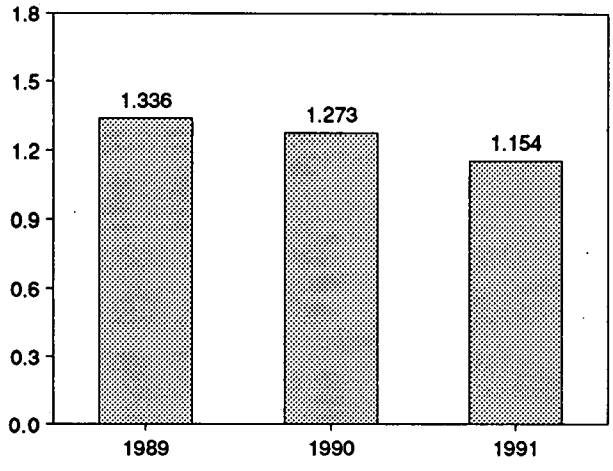
### Overview, 1973-1990



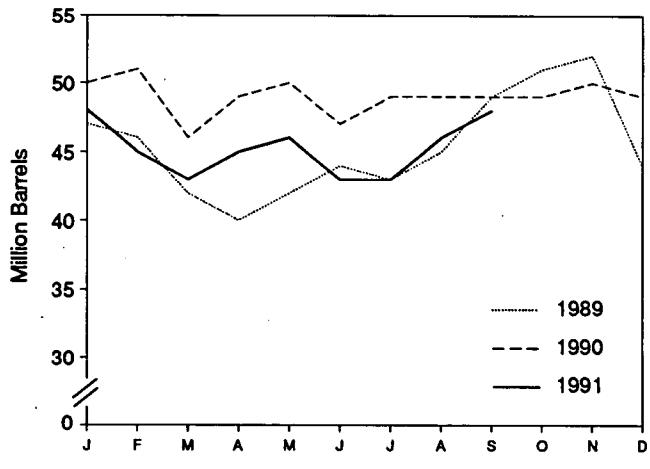

### Overview, Monthly




### Product Supplied, January-September




### Stocks, End of Month




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 3.6.

# Table 3.6 Residual Fuel Oil Supply and Disposition

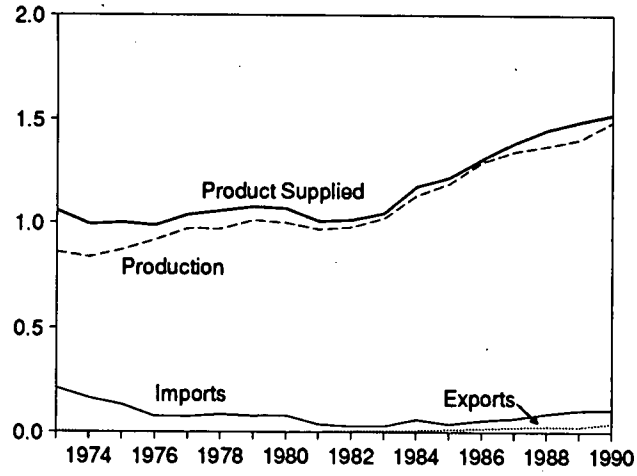
| | Supply | | | Disposition | | | |
|---|---|---|---|---|---|---|---|
| | Total Production | Imports | Crude Used Directly[a] | Stock Change[b] | Exports | Product Supplied[a] | Ending Stocks[c] |
| | Thousand Barrels per Day | | | | | | Million Barrels |
| **1973 Average** | **971** | **1,853** | **17** | **-5** | **23** | **2,822** | **53** |
| **1974 Average** | **1,070** | **1,587** | **13** | **17** | **14** | **2,639** | **[d]60** |
| **1975 Average** | **1,235** | **1,223** | **15** | **[d]-2** | **15** | **2,462** | **74** |
| **1976 Average** | **1,377** | **1,413** | **17** | **-5** | **12** | **2,801** | **72** |
| **1977 Average** | **1,754** | **1,359** | **13** | **48** | **6** | **3,071** | **90** |
| **1978 Average** | **1,667** | **1,355** | **13** | **1** | **13** | **3,023** | **90** |
| **1979 Average** | **1,687** | **1,151** | **12** | **15** | **9** | **2,826** | **96** |
| **1980 Average** | **1,580** | **939** | **12** | **-10** | **33** | **2,508** | **[d]92** |
| **1981 Average[e]** | **1,321** | **800** | **48** | **[d]-37** | **118** | **2,088** | **78** |
| **1982 Average** | **1,070** | **776** | **48** | **-32** | **209** | **1,716** | **[d]66** |
| **1983 Average** | **852** | **699** | **–** | **[d]-55** | **185** | **1,421** | **49** |
| **1984 Average** | **891** | **681** | **–** | **12** | **190** | **1,369** | **53** |
| **1985 Average** | **882** | **510** | **–** | **-7** | **197** | **1,202** | **50** |
| **1986 Average** | **889** | **669** | **–** | **-8** | **147** | **1,418** | **47** |
| **1987 Average** | **885** | **565** | **–** | **(s)** | **186** | **1,264** | **47** |
| **1988 Average** | **926** | **644** | **–** | **-8** | **200** | **1,378** | **45** |
| **1989** January | 949 | 909 | – | 84 | 151 | 1,623 | 47 |
| February | 930 | 877 | – | -58 | 146 | 1,719 | 46 |
| March | 937 | 706 | – | -128 | 220 | 1,551 | 42 |
| April | 904 | 681 | – | -52 | 236 | 1,401 | 40 |
| May | 934 | 538 | – | 77 | 276 | 1,119 | 42 |
| June | 953 | 533 | – | 54 | 208 | 1,223 | 44 |
| July | 862 | 556 | – | -44 | 176 | 1,286 | 43 |
| August | 903 | 501 | – | 58 | 225 | 1,121 | 45 |
| September | 856 | 454 | – | 162 | 137 | 1,010 | 49 |
| October | 1,001 | 583 | – | 50 | 243 | 1,292 | 51 |
| November | 1,075 | 543 | – | 48 | 330 | 1,240 | 52 |
| December | 1,140 | 680 | – | -275 | 226 | 1,870 | 44 |
| **Average** | **954** | **629** | **–** | **-2** | **215** | **1,370** | **44** |
| **1990** January | 1,163 | 825 | – | 205 | 186 | 1,597 | 50 |
| February | 1,060 | 663 | – | 36 | 214 | 1,474 | 51 |
| March | 976 | 335 | – | -158 | 277 | 1,192 | 46 |
| April | 882 | 559 | – | 90 | 200 | 1,151 | 49 |
| May | 884 | 507 | – | 22 | 141 | 1,227 | 50 |
| June | 926 | 485 | – | -98 | 207 | 1,302 | 47 |
| July | 987 | 536 | – | 72 | 171 | 1,280 | 49 |
| August | 944 | 574 | – | -1 | 280 | 1,238 | 49 |
| September | 909 | 313 | – | 15 | 200 | 1,007 | 49 |
| October | 799 | 383 | – | -3 | 160 | 1,026 | 49 |
| November | 846 | 387 | – | 25 | 243 | 965 | 50 |
| December | 1,021 | 484 | – | -50 | 259 | 1,296 | 49 |
| **Average** | **950** | **504** | **–** | **13** | **211** | **1,229** | **49** |
| **1991** January | 1,000 | 422 | – | -32 | 320 | 1,133 | 48 |
| February | 1,049 | 384 | – | -106 | 299 | 1,239 | 45 |
| March | 997 | 331 | – | -55 | 178 | 1,206 | 43 |
| April | 915 | 416 | – | 58 | 145 | 1,128 | 45 |
| May | 926 | 420 | – | 36 | 300 | 1,010 | 46 |
| June | 933 | 499 | – | -78 | 245 | 1,265 | 43 |
| July | 870 | 419 | – | -4 | 176 | 1,118 | 43 |
| August | [R]925 | [R]568 | – | [R]72 | [R]216 | [R]1,205 | 46 |
| September | [E]878 | [E]408 | – | [E]40 | [E]154 | [E]1,092 | [E]48 |
| **9-Month Average** | **[E]943** | **[E]430** | **–** | **[E]-7** | **[E]226** | **[E]1,154** | **[E]48** |
| **1990 9-Month Average** | **970** | **532** | **–** | **21** | **208** | **1,273** | **49** |
| **1989 9-Month Average** | **914** | **638** | **–** | **18** | **198** | **1,336** | **49** |

[a] Beginning in January 1983, product supplied for residual fuel oil does not include crude oil used directly.
[b] A negative number indicates a decrease in stocks and a positive number indicates an increase.
[c] Stocks are totals as of end of period.
[d] In January 1975, 1981, and 1983, numerous respondents were added to surveys, thereby affecting stocks reported and stock change calculations. See Note 4 at end of section.
[e] Beginning in January 1981, survey forms were modified. See Note 1 at end of section.
R=Revised data. – =Not applicable. E=Estimate. (s)=Less than 500 barrels per day.
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.
Source: Energy Information Administration, *Petroleum Supply Monthly*, October 1991, Table S6.

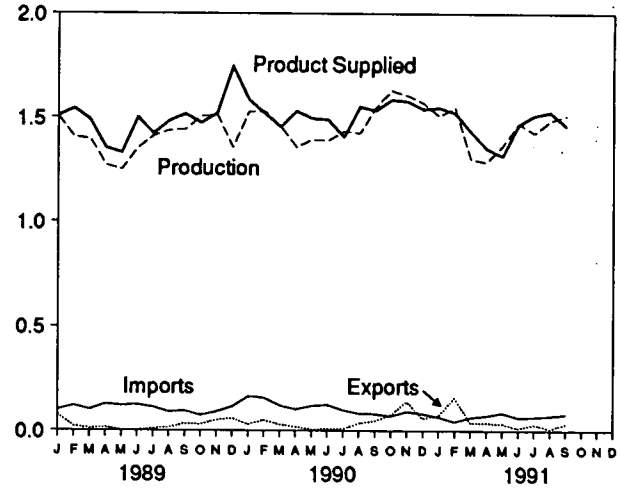
## Figure 3.5 Jet Fuel

(Million Barrels per Day, Except as Noted)

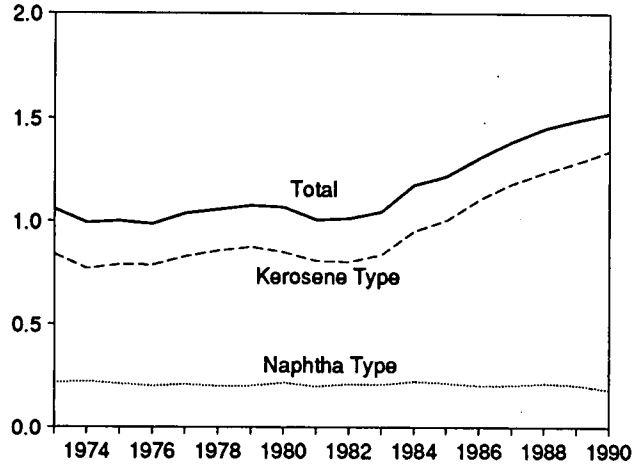
### Total Jet Fuel Overview, 1973-1990



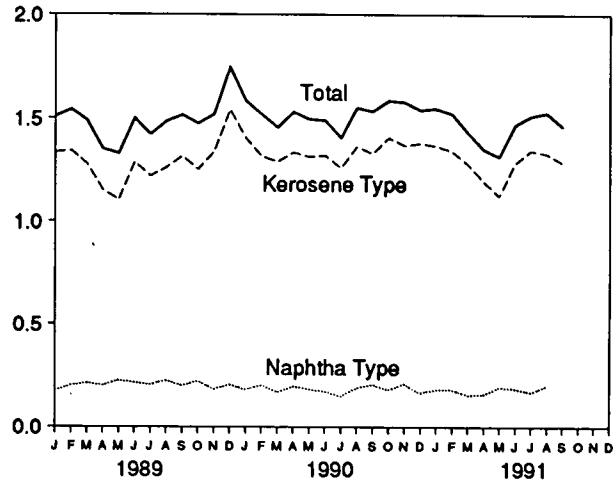

### Total Jet Fuel Overview, Monthly



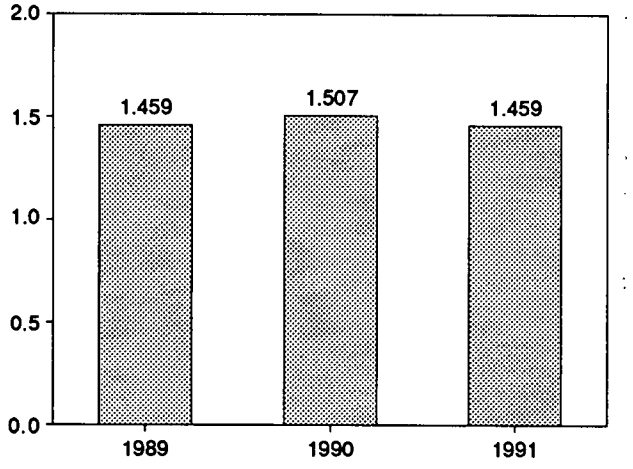

### Product Supplied by Type, 1973-1990



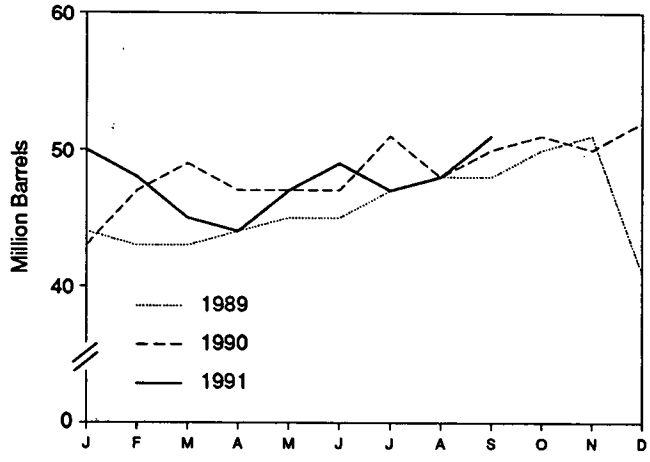

### Product Supplied by Type, Monthly




### Total Product Supplied, January-September




### Total Stocks, End of Month




Source: Table 3.7.

# Table 3.7 Jet Fuel Supply and Disposition

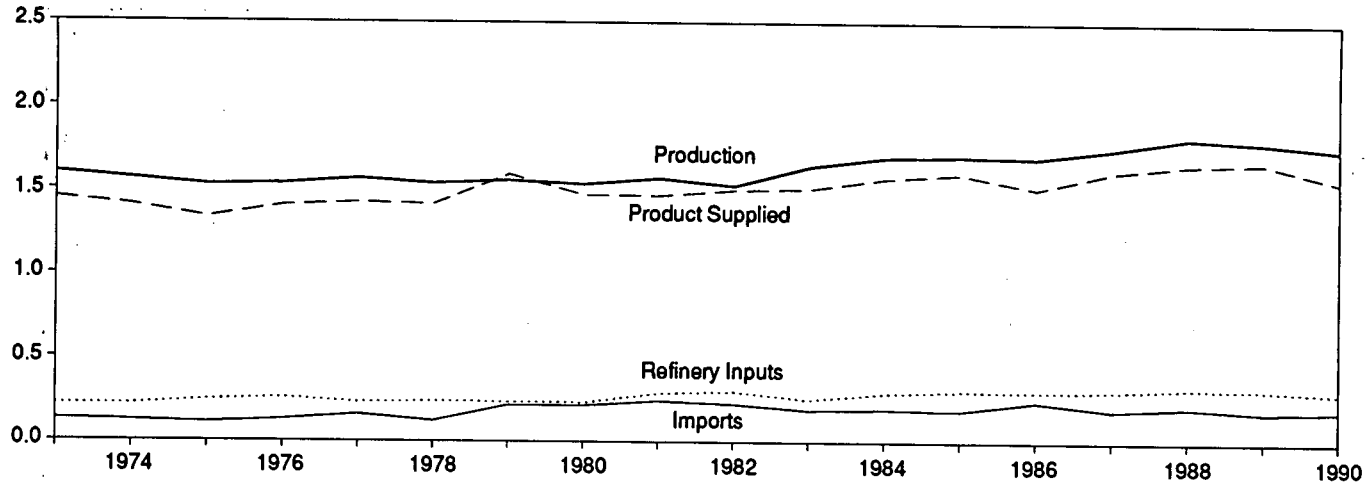
| | Supply | | | Disposition | | | | Ending Stocks[a] | |
|---|---|---|---|---|---|---|---|---|---|
| | Production | | Imports | Stock Change[b] | Exports | Product Supplied | | | |
| | Total | Kerosene Type | | | | Total | Kerosene Type | Total | Kerosene Type |
| | Thousand Barrels per Day | | | | | | | Million Barrels | |
| **1973 Average** | 859 | 679 | 212 | 8 | 4 | 1,059 | 842 | 29 | 23 |
| **1974 Average** | 836 | 641 | 163 | 2 | 3 | 993 | 771 | [c]29 | [c]24 |
| **1975 Average** | 871 | 691 | 133 | [c]2 | 2 | 1,001 | 791 | 30 | 25 |
| **1976 Average** | 918 | 731 | 76 | 5 | 2 | 987 | 789 | 32 | 26 |
| **1977 Average** | 973 | 787 | 75 | 7 | 2 | 1,039 | 831 | 35 | 28 |
| **1978 Average** | 970 | 791 | 86 | -2 | 1 | 1,057 | 858 | 34 | 28 |
| **1979 Average** | 1,012 | 835 | 78 | 13 | 1 | 1,076 | 876 | 39 | 33 |
| **1980 Average** | 999 | 811 | 80 | 10 | 1 | 1,068 | 851 | [c]42 | [c]36 |
| **1981 Average** | 968 | 775 | 38 | [c]-4 | 2 | 1,007 | 809 | 41 | 34 |
| **1982 Average** | 978 | 778 | 29 | -12 | 6 | 1,013 | 804 | [c]37 | [c]31 |
| **1983 Average** | 1,022 | 817 | 29 | [c] (s) | 6 | 1,046 | 839 | 39 | 32 |
| **1984 Average** | 1,132 | 919 | 62 | 9 | 9 | 1,175 | 953 | 42 | 35 |
| **1985 Average** | 1,189 | 983 | 39 | -4 | 13 | 1,218 | 1,005 | 40 | 34 |
| **1986 Average** | 1,293 | 1,097 | 57 | 25 | 18 | 1,307 | 1,105 | 50 | 43 |
| **1987 Average** | 1,343 | 1,138 | 67 | (s) | 24 | 1,385 | 1,181 | 50 | 42 |
| **1988 Average** | 1,370 | 1,164 | 90 | -17 | 28 | 1,449 | 1,236 | 44 | 38 |
| **1989** January | 1,503 | 1,312 | 101 | 21 | 75 | 1,508 | 1,334 | 44 | 38 |
| February | 1,404 | 1,214 | 120 | -40 | 21 | 1,542 | 1,342 | 43 | 37 |
| March | 1,396 | 1,188 | 101 | -2 | 11 | 1,488 | 1,277 | 43 | 37 |
| April | 1,270 | 1,074 | 127 | 31 | 16 | 1,351 | 1,150 | 44 | 38 |
| May | 1,249 | 1,031 | 120 | 40 | 1 | 1,328 | 1,103 | 45 | 39 |
| June | 1,350 | 1,139 | 124 | -27 | 1 | 1,500 | 1,286 | 45 | 38 |
| July | 1,410 | 1,194 | 113 | 90 | 11 | 1,422 | 1,219 | 47 | 41 |
| August | 1,437 | 1,237 | 90 | 28 | 15 | 1,484 | 1,260 | 48 | 42 |
| September | 1,442 | 1,218 | 95 | -13 | 34 | 1,516 | 1,316 | 48 | 41 |
| October | 1,504 | 1,300 | 74 | 74 | 30 | 1,474 | 1,252 | 50 | 44 |
| November | 1,514 | 1,305 | 91 | 34 | 52 | 1,519 | 1,337 | 51 | 44 |
| December | 1,354 | 1,149 | 115 | -335 | 59 | 1,745 | 1,541 | 41 | 34 |
| **Average** | 1,403 | 1,197 | 106 | -8 | 27 | 1,489 | 1,284 | 41 | 34 |
| **1990** January | 1,527 | 1,340 | 163 | 76 | 30 | 1,584 | 1,404 | 43 | 37 |
| February | 1,530 | 1,330 | 158 | 120 | 50 | 1,519 | 1,316 | 47 | 40 |
| March | 1,457 | 1,256 | 120 | 92 | 30 | 1,455 | 1,289 | 49 | 42 |
| April | 1,357 | 1,179 | 103 | -91 | 19 | 1,531 | 1,335 | 47 | 40 |
| May | 1,392 | 1,194 | 119 | 8 | 8 | 1,495 | 1,313 | 47 | 40 |
| June | 1,388 | 1,214 | 125 | 13 | 10 | 1,490 | 1,320 | 47 | 40 |
| July | 1,434 | 1,307 | 99 | 117 | 10 | 1,406 | 1,259 | 51 | 45 |
| August | 1,424 | 1,250 | 83 | -82 | 37 | 1,552 | 1,363 | 48 | 43 |
| September | 1,548 | 1,339 | 81 | 48 | 47 | 1,534 | 1,329 | 50 | 44 |
| October | 1,630 | 1,463 | 71 | 39 | 77 | 1,585 | 1,406 | 51 | 45 |
| November | 1,606 | 1,445 | 93 | -19 | 141 | 1,578 | 1,369 | 50 | 45 |
| December | 1,570 | 1,411 | 82 | 51 | 60 | 1,541 | 1,378 | 52 | 46 |
| **Average** | 1,488 | 1,311 | 108 | 31 | 43 | 1,522 | 1,340 | 52 | 46 |
| **1991** January | 1,508 | 1,353 | 67 | -46 | 73 | 1,548 | 1,367 | 50 | 44 |
| February | 1,548 | 1,384 | 44 | -91 | 159 | 1,523 | 1,342 | 48 | 42 |
| March | 1,299 | 1,157 | 65 | -109 | 40 | 1,433 | 1,279 | 45 | 39 |
| April | 1,286 | 1,135 | 73 | -29 | 38 | 1,350 | 1,195 | 44 | 38 |
| May | 1,365 | 1,190 | 87 | 104 | 35 | 1,314 | 1,123 | 47 | 41 |
| June | 1,473 | 1,300 | 64 | 56 | 13 | 1,468 | 1,282 | 49 | 43 |
| July | 1,426 | 1,255 | 67 | -49 | 31 | 1,511 | 1,344 | 47 | 41 |
| August | [R]1,486 | 1,316 | [R]72 | [R]20 | [R]11 | [R]1,527 | [R]1,328 | 48 | [R]42 |
| September | [E]1,510 | [E]1,344 | [E]79 | [E]95 | [E]33 | [E]1,461 | [E]1,285 | [E]51 | [E]46 |
| **9-Month Average** | [E]1,432 | [E]1,269 | [E]69 | [E]-5 | [E]47 | [E]1,459 | [E]1,283 | [E]51 | [E]46 |
| **1990 9-Month Average** | 1,450 | 1,267 | 117 | 33 | 27 | 1,507 | 1,325 | 50 | 44 |
| **1989 9-Month Average** | 1,385 | 1,179 | 110 | 15 | 21 | 1,459 | 1,253 | 48 | 41 |

[a] Stocks are totals as of end of period.
[b] A negative number indicates a decrease in stocks and a positive number indicates an increase.
[c] In January 1975, 1981, and 1983, a new stock basis was established, thereby affecting stocks reported and stock change calculations. See Note 4 at end of section.
R=Revised data. E=Estimate. (s)=Less than 500 barrels per day.
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.
Source: Energy Information Administration, *Petroleum Supply Monthly*, October 1991, Table S7.

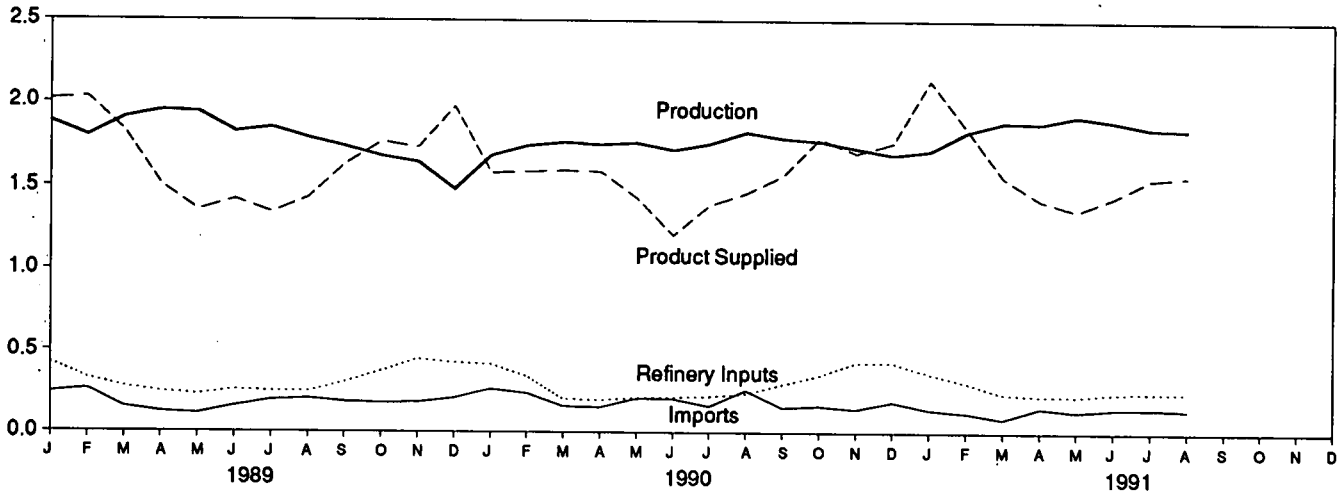
## Figure 3.6 Liquefied Petroleum Gases

(Million Barrels per Day, Except as Noted)

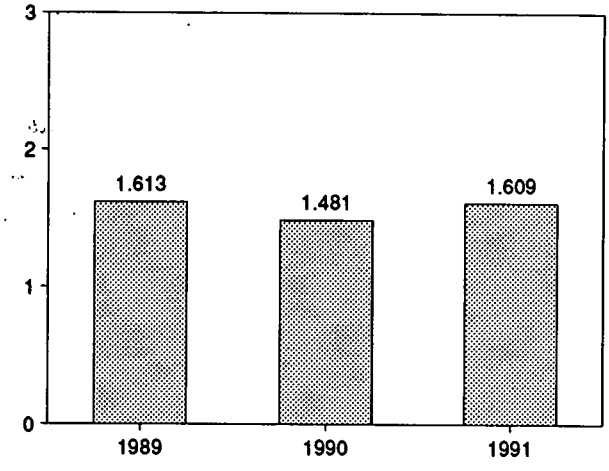
### Overview, 1973-1990



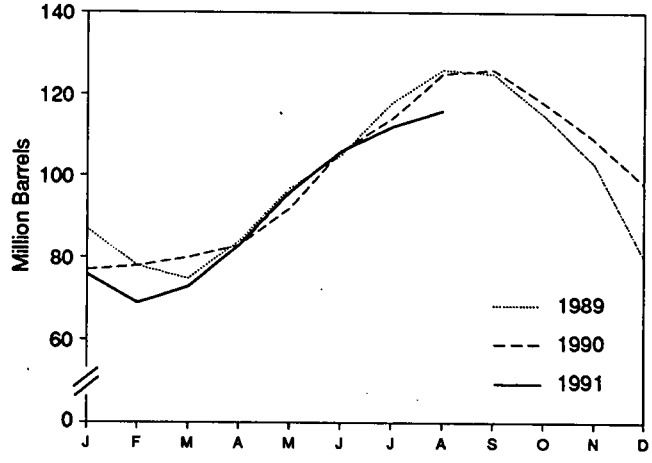

### Overview, Monthly




### Product Supplied, January-August




### Stocks, End of Month




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 3.8.

# Table 3.8 Liquefied Petroleum Gases Supply and Disposition

| | Supply | | Disposition | | | | |
|---|---|---|---|---|---|---|---|
| | Total Production | Imports | Stock Change[a] | Refinery Inputs | Exports | Product Supplied | Ending Stocks[b] |
| | Thousand Barrels per Day | | | | | | Million Barrels |
| **1973 Average** | 1,600 | 132 | 35 | 220 | 27 | 1,449 | 99 |
| **1974 Average** | 1,565 | 123 | 38 | 220 | 25 | 1,406 | [c] 113 |
| **1975 Average** | 1,527 | 112 | [c] 35 | 246 | 26 | 1,333 | 125 |
| **1976 Average** | 1,535 | 130 | -24 | 260 | 25 | 1,404 | 116 |
| **1977 Average** | 1,566 | 161 | 55 | 233 | 18 | 1,422 | 136 |
| **1978 Average** | 1,537 | 123 | -12 | 239 | 20 | 1,413 | [c] 132 |
| **1979 Average** | 1,556 | 217 | [c] -70 | 236 | 15 | 1,592 | 111 |
| **1980 Average** | 1,535 | 216 | 27 | 233 | 21 | 1,469 | [c] 120 |
| **1981 Average** | 1,571 | 244 | [c] 18 | 289 | 42 | 1,466 | 135 |
| **1982 Average** | * 1,527 | 226 | -111 | 300 | 65 | 1,499 | [c] 94 |
| **1983 Average** | 1,642 | 190 | [c] -4 | 253 | 73 | 1,509 | [c] 101 |
| **1984 Average** | 1,697 | 195 | [c] -19 | 291 | 48 | 1,572 | 101 |
| **1985 Average** | 1,704 | 187 | -75 | 304 | 62 | 1,599 | 74 |
| **1986 Average** | 1,695 | 242 | 80 | 302 | 42 | 1,512 | 103 |
| **1987 Average** | 1,748 | 190 | -15 | 304 | 38 | 1,612 | 97 |
| **1988 Average** | 1,817 | 209 | 1 | 321 | 49 | 1,656 | 97 |
| **1989** January | 1,885 | 239 | -335 | 422 | 19 | 2,018 | 87 |
| February | 1,798 | 260 | -333 | 328 | 31 | 2,032 | 78 |
| March | 1,909 | 150 | -85 | 274 | 43 | 1,827 | 75 |
| April | 1,950 | 121 | 294 | 242 | 27 | 1,507 | 84 |
| May | 1,943 | 110 | 428 | 226 | 43 | 1,357 | 97 |
| June | 1,824 | 155 | 269 | 254 | 35 | 1,422 | 105 |
| July | 1,850 | 192 | 407 | 247 | 45 | 1,343 | 118 |
| August | 1,787 | 202 | 272 | 245 | 40 | 1,433 | 126 |
| September | 1,737 | 182 | -46 | 303 | 31 | 1,631 | 125 |
| October | 1,679 | 176 | -313 | 371 | 31 | 1,766 | 115 |
| November | 1,643 | 179 | -389 | 446 | 33 | 1,732 | 103 |
| December | 1,483 | 205 | -749 | 424 | 37 | 1,975 | 80 |
| **Average** | 1,791 | 181 | -47 | 315 | 35 | 1,668 | 80 |
| **1990** January | 1,684 | 261 | -92 | 414 | 44 | 1,580 | 77 |
| February | 1,743 | 235 | 11 | 339 | 42 | 1,587 | 78 |
| March | 1,763 | 155 | 80 | 199 | 44 | 1,595 | 80 |
| April | 1,751 | 150 | 91 | 195 | 25 | 1,589 | 83 |
| May | 1,761 | 204 | 287 | 209 | 36 | 1,433 | 92 |
| June | 1,719 | 202 | 469 | 212 | 28 | 1,211 | 106 |
| July | 1,756 | 157 | 268 | 217 | 36 | 1,392 | 114 |
| August | 1,825 | 256 | 339 | 236 | 43 | 1,463 | 125 |
| September | 1,789 | 149 | 37 | 293 | 41 | 1,567 | 126 |
| October | 1,773 | 159 | -243 | 348 | 38 | 1,790 | 118 |
| November | 1,731 | 140 | -296 | 427 | 39 | 1,702 | 109 |
| December | 1,692 | 184 | -370 | 427 | 58 | 1,762 | 98 |
| **Average** | 1,749 | 188 | 48 | 293 | 40 | 1,556 | 98 |
| **1991** January | 1,716 | 137 | -700 | 359 | 56 | 2,139 | 76 |
| February | 1,829 | 119 | -267 | 304 | 60 | 1,850 | 69 |
| March | 1,887 | 81 | 121 | 234 | 56 | 1,556 | 73 |
| April | 1,881 | 149 | 353 | 224 | 31 | 1,423 | 83 |
| May | 1,924 | 127 | 425 | 221 | 45 | 1,360 | 96 |
| June | 1,894 | 143 | 324 | 238 | 32 | 1,443 | 106 |
| July | 1,851 | 146 | 181 | 244 | 24 | 1,548 | 112 |
| August | 1,844 | 137 | 153 | 244 | 18 | 1,566 | 116 |
| **8-Month Average** | 1,853 | 130 | 76 | 258 | 40 | 1,609 | 116 |
| **1990 8-Month Average** | 1,750 | 202 | 183 | 252 | 37 | 1,481 | 125 |
| **1989 8-Month Average** | 1,869 | 178 | 119 | 279 | 35 | 1,613 | 126 |

* Due to differences internal to Energy Information Administration data processing systems, some small discrepancies exist between the data in this table and the data in the *Petroleum Supply Annual* and *Petroleum Supply Monthly*. See Note 6 at end of section.

[a] A negative number indicates a decrease in stocks and a positive number indicates an increase.

[b] Stocks are totals as of end of period.

[c] In January 1975, 1979, 1981, 1983, and 1984, a new stock basis was established, thereby affecting stocks reported and stock change calculations. See Note 4 at end of section.

Notes: • Liquefied petroleum gases include ethane, propane, normal butane, and isobutane. • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

Source: Energy Information Administration, *Petroleum Supply Monthly*, October 1991, Table S8.

# Table 3.9 Other Petroleum Products Supply and Disposition

| | Supply | | Disposition | | | | |
|---|---|---|---|---|---|---|---|
| | Total Production | Imports | Stock Change[a] | Refinery Inputs | Exports | Products Supplied | Ending Stocks[b] |
| | Thousand Barrels per Day | | | | | | Million Barrels |
| **1973 Average** | **2,833** | **290** | **1** | **750** | **162** | **2,211** | **179** |
| **1974 Average** | **2,722** | **269** | **25** | **665** | **172** | **2,129** | **[c]188** |
| **1975 Average** | **2,547** | **144** | **[c]-6** | **537** | **158** | **2,001** | **188** |
| **1976 Average** | **2,725** | **129** | **(s)** | **524** | **172** | **2,158** | **188** |
| **1977 Average** | **2,939** | **130** | **20** | **514** | **164** | **2,371** | **195** |
| **1978 Average** | **3,076** | **80** | **-12** | **492** | **165** | **2,511** | **191** |
| **1979 Average** | **3,141** | **116** | **24** | **352** | **208** | **2,673** | **200** |
| **1980 Average** | **2,957** | **130** | **15** | **310** | **197** | **2,566** | **[c]205** |
| **1981 Average** | **2,771** | **188** | **[c]-42** | **723** | **197** | **2,081** | **241** |
| **1982 Average** | **2,475** | **305** | **-68** | **787** | **205** | **[*]1,857** | **[c]216** |
| **1983 Average** | **2,437** | **382** | **[c]-6** | **712** | **236** | **1,877** | **[c]217** |
| **1984 Average** | **2,500** | **503** | **[c]-32** | **791** | **236** | **2,007** | **198** |
| **1985 Average** | **2,532** | **550** | **22** | **886** | **227** | **1,947** | **206** |
| **1986 Average** | **2,704** | **504** | **-15** | **888** | **291** | **2,045** | **201** |
| **1987 Average** | **2,737** | **543** | **-1** | **829** | **264** | **2,187** | **200** |
| **1988 Average** | **2,773** | **645** | **22** | **799** | **294** | **2,303** | **208** |
| 1989 January | 2,696 | 646 | 375 | 706 | 236 | 2,024 | 220 |
| February | 2,553 | 717 | 231 | 726 | 281 | 2,032 | 226 |
| March | 2,671 | 644 | 114 | 660 | 311 | 2,230 | 230 |
| April | 2,683 | 727 | 102 | 808 | 290 | 2,210 | 233 |
| May | 2,882 | 635 | 181 | 688 | 258 | 2,391 | 239 |
| June | 3,025 | 571 | -179 | 838 | 388 | 2,549 | 233 |
| July | 3,044 | 576 | -159 | 955 | 333 | 2,491 | 228 |
| August | 2,998 | 587 | -244 | 893 | 313 | 2,623 | 221 |
| September | 2,986 | 675 | 125 | 737 | 309 | 2,490 | 224 |
| October | 2,687 | 632 | -42 | 730 | 308 | 2,323 | 223 |
| November | 2,608 | 645 | -77 | 900 | 299 | 2,131 | 221 |
| December | 2,409 | 486 | -266 | 918 | 332 | 1,910 | 213 |
| **Average** | **2,771** | **627** | **12** | **797** | **305** | **2,285** | **213** |
| 1990 January | 2,567 | 814 | 86 | 735 | 225 | 2,335 | 215 |
| February | 2,781 | 680 | 387 | 654 | 298 | 2,122 | 226 |
| March | 2,670 | 687 | 78 | 795 | 276 | 2,207 | 229 |
| April | 2,774 | 596 | -138 | 869 | 318 | 2,320 | 224 |
| May | 2,847 | 756 | 295 | 544 | 292 | 2,471 | 234 |
| June | 2,907 | 879 | -160 | 919 | 334 | 2,692 | 229 |
| July | 3,146 | 732 | -148 | 958 | 317 | 2,752 | 224 |
| August | 3,097 | 673 | -291 | 998 | 297 | 2,766 | 215 |
| September | 3,029 | 674 | 68 | 760 | 265 | 2,611 | 217 |
| October | 2,848 | 590 | -436 | 1,211 | 329 | 2,334 | 204 |
| November | 2,788 | 800 | 206 | 1,010 | 270 | 2,102 | 210 |
| December | 2,644 | 575 | -288 | 1,172 | 249 | 2,087 | 201 |
| **Average** | **2,842** | **705** | **-32** | **887** | **289** | **2,402** | **201** |
| 1991 January | 2,640 | 720 | 167 | 835 | 317 | 2,041 | 207 |
| February | 2,683 | 555 | 391 | 723 | 275 | 1,849 | 218 |
| March | 2,585 | 504 | 145 | 832 | 239 | 1,873 | 223 |
| April | 2,735 | 584 | 125 | 790 | 228 | 2,176 | 226 |
| May | 2,884 | 762 | 209 | 921 | 327 | 2,190 | 233 |
| June | 3,032 | 574 | -125 | 1,102 | 304 | 2,325 | 229 |
| July | 3,036 | 747 | -129 | 1,082 | 321 | 2,508 | 225 |
| August | 3,005 | 625 | -173 | 1,019 | 296 | 2,489 | 220 |
| **8-Month Average** | **2,826** | **635** | **73** | **915** | **289** | **2,185** | **220** |
| **1990 8-Month Average** | **2,849** | **728** | **10** | **810** | **294** | **2,462** | **215** |
| **1989 8-Month Average** | **2,822** | **637** | **51** | **785** | **301** | **2,322** | **221** |

[*] Due to differences internal to Energy Information Administration data processing systems, some small discrepancies exist between the data in this table and the data in the *Petroleum Supply Annual* and *Petroleum Supply Monthly*. See Note 6 at end of section.

[a] A negative number indicates a decrease in stocks and a positive number indicates an increase.

[b] Stocks are totals as of end of period.

[c] In January 1975, 1981, 1983, and 1984, a new stock basis was established, thereby affecting stocks reported and stock change calculations. See Note 4 at end of section.

(s)=Less than 500 barrels per day.

Notes: • Other petroleum products include pentanes plus, other hydrocarbons and alcohol, unfinished oil, gasoline blending components, and all finished petroleum products except finished motor gasoline, distillate fuel oil, residual fuel oil, jet fuel, and liquefied petroleum gases. • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

Source: Energy Information Administration, *Petroleum Supply Monthly*, October 1991, Table S9.

# Petroleum Notes

1. The Energy Information Administration (EIA) uses a number of sources and methods to maintain the survey respondent lists. On a regular basis, survey managers review such industry publications as the *Oil and Gas Journal and Oil Daily* for information on facilities or companies starting up or closing down operations. Those sources are augmented by articles in newspapers, letters from respondents indicating changes in status, and information received from survey systems.

Every 3 years an extensive survey is conducted to update the frames completely. The updating involves consolidating information from every known source, including State agencies, Federal agencies (e.g., Environmental Protection Agency, Corps of Engineers, Census Bureau, etc.), and private industry directories. The effort also includes the evaluation of the impact of potential frame changes on the historical time series of data published from these respondents. The results of this frame study are usually implemented in January to provide a full year under the same frame.

2. **Motor Gasoline:** Beginning in January 1981, the EIA expanded its universe to include non-refinery blenders; redefined motor gasoline into two categories (finished leaded and finished unleaded); and separated blending components from finished motor gasoline as a reporting category. Also, survey forms were modified to describe refinery operations more accurately. For further details, see the EIA, *Petroleum Supply Monthly.*

3. **Distillate and Residual Fuel Oils:** The requirement to report crude oil in pipelines or burned on leases as either distillate or residual fuel oil has been eliminated. Prior to January 1981, the refinery input of unfinished oils number typically exceeded the number for available supply of unfinished oils. That discrepancy was assumed to be due to the redesignation of distillate and residual fuel oils received as such but used as an unfinished oil input by the receiving refinery. The imbalance between supply and disposition of unfinished oils would then be subtracted from the production of distillate and residual fuel oils. Two-thirds of that difference was subtracted from distillate and one-third from residual. Beginning in January 1981, the EIA modified its survey forms to account for redesignated product and discontinued the above-mentioned adjustment. For further details, see the EIA, *Petroleum Supply Monthly.*

4. **New Stock Basis:** In January 1975, 1979, 1981, and 1983, numerous respondents were added to bulk terminal and pipeline surveys, affecting subsequent stocks reported and stock change calculations. Using the expanded coverage (new basis), the end-of-year stocks, in million barrels, would have been:

- Crude Oil: 1982—645 (Total) and 351 (Other Primary).
- Crude Oil and Petroleum Products: 1974—1,121; 1980—1,425; and 1982—1,461.
- Motor Gasoline: 1974—225; 1980—263; 1982—244 (Total) and 202 (Finished).
- Distillate Fuel Oil: 1974—224; 1980—205; and 1982—186.
- Residual Fuel Oil: 1974—75; 1980—91; and 1982—69.
- Jet Fuel: 1974—30 (Total) and 24 (Kerosene Type); 1980—42 (Total) and 36 (Kerosene Type); and 1982—39 (Total) and 32 (Kerosene Type).
- Liquefied Petroleum Gases: 1974—113; 1978—136; 1980—128; and 1982—102.
- Other Petroleum Products: 1974—190; 1980—207; and 1982—219.

Stock change calculations beginning in 1975, 1981, and 1983, were made by using new basis stock levels.

In January 1984, changes were made in the reporting of natural gas liquids. As a result, unfractionated stream, which was formerly included in "Other Petroleum Products Supply and Disposition" table, is now reported on a component basis (ethane, propane, normal butane, isobutane, and pentanes plus). Most of these stocks now appear in the "Liquefied Petroleum Gases Supply and Disposition" table. This change affects stocks reported and stock change calculations in each table. Under the new basis, end-of-year 1983 stocks, in million barrels, would have been:

- Liquefied Petroleum Gases: 1983—108.
- Other Petroleum Products: 1983—210.

5. **Stocks of Alaskan Crude Oil:** Stocks of Alaskan Crude oil in transit were included for the first time in January 1981. The major impact of this change is on the reporting of stock change calculations. Using the expanded coverage (new basis), 1980 end-of-year stocks, in million barrels, would have been 488 (Total) and 380 (Other Primary).

6. **Data Discrepancies:** Due to differences internal to EIA data processing systems, some small discrepancies exist between data in the *Monthly Energy Review* and the *Petroleum Supply Annual* and *Petroleum Supply Monthly.* The data that have discrepancies are noted with an asterisk in Section 3 tables and are summarized on the following page.

**6. Data Discrepancies (Continued).** This listing summarizes the data discrepancies between the *Monthly Energy Review (MER)* and the *Petroleum Supply Annual (PSA)* and *Petroleum Supply Monthly (PSM).*

| Table | Data Series | Year Average | *MER* Data | *PSA/PSM* Data |
|---|---|---|---|---|
| 3.1a | Natural Gas Plant Production | 1976 | 1,604 | 1,603 |
| 3.1b | Exports, Total | 1979 | 471 | 472 |
| 3.1b | Exports, Petroleum Products | 1979 | 236 | 237 |
| 3.1b | Net Imports | 1979 | 7,985 | 7,984 |
| 3.2a | Crude Used Directly | 1976 | -19 | -18 |
| 3.2a | Imports, SPR | 1978 | 161 | 162 |
| 3.2a | Crude Used Directly | 1978 | -15 | -14 |
| 3.2a | Crude Used Directly | 1979 | -14 | -13 |
| 3.2a | Crude Used Directly | 1980 | -14 | -13 |
| 3.2b | Crude Losses | 1976 | 14 | 15 |
| 3.2b | Crude Losses | 1980 | 14 | 15 |
| 3.5 | Stock Change | 1974 | 10 | 9 |
| 3.5 | Stock Change | 1975 | -41 | -40 |
| 3.8 | Total Production | 1982 | 1,527 | 1,525 |
| 3.9 | Products Supplied | 1982 | 1,857 | 1,856 |

# Section 4. Natural Gas

Total dry natural gas production in the United States during August 1991 was an estimated 1.5 trillion cubic feet, 1 percent[4] higher than production during the previous August.

Consumption of natural and supplemental gas in August 1991 was 1.3 trillion cubic feet, slightly higher than the level in August 1990.

Deliveries to residential consumers in July 1991 (latest data available) were 127 billion cubic feet, 1 percent higher than the previous July.

Total deliveries to industrial consumers during July 1991 were 566 billion cubic feet, 1 percent higher than in the previous July.

Imports of natural gas in August 1991 were 131 billion cubic feet, 11 percent higher than imports in the previous August.

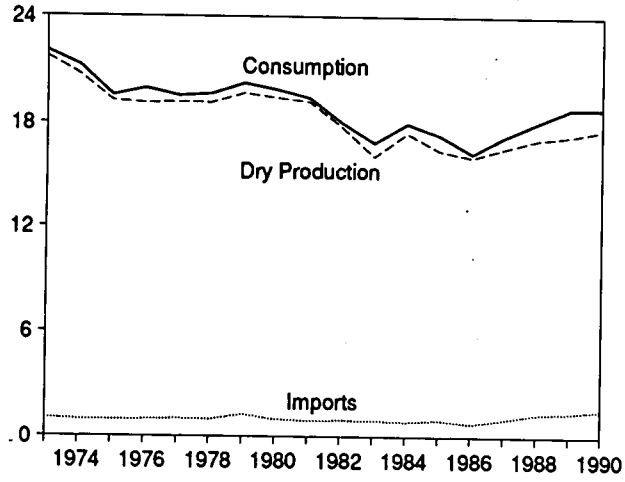
Stocks of working gas[5] in underground natural gas storage reservoirs at the end of August 1991 totaled 3.0 trillion cubic feet, 1 percent below the level of stocks available 1 year earlier. Net injections into storage during August 1991 were 202 billion cubic feet, down 29 percent from the previous August's injections.

[4]Percentage changes are calculated using unrounded data.
[5]Gas available for withdrawal.

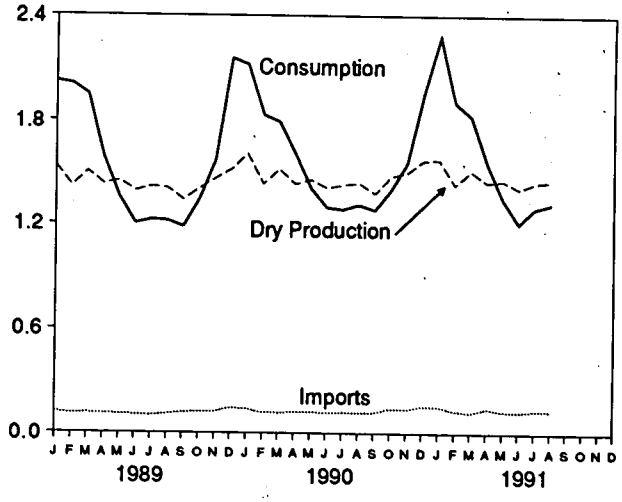
## Figure 4.1 Natural Gas

(Trillion Cubic Feet)

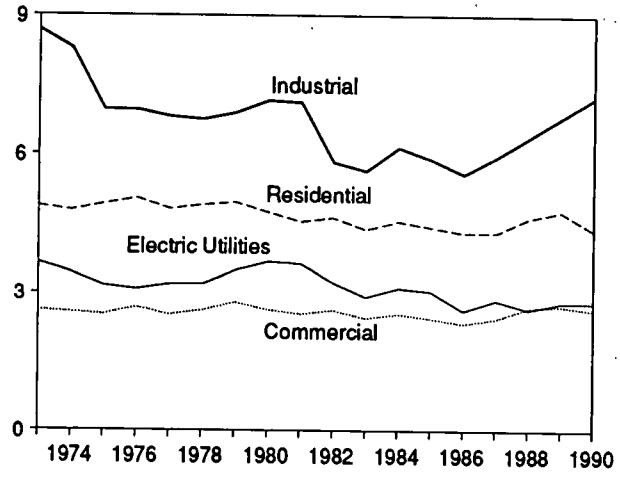
### Overview, 1973-1990



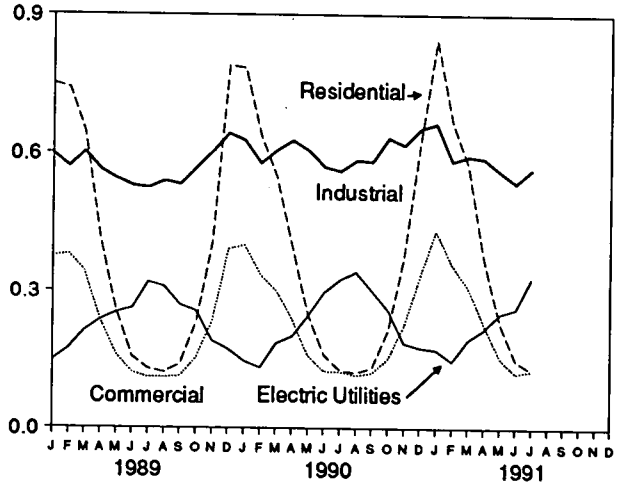

### Overview, Monthly



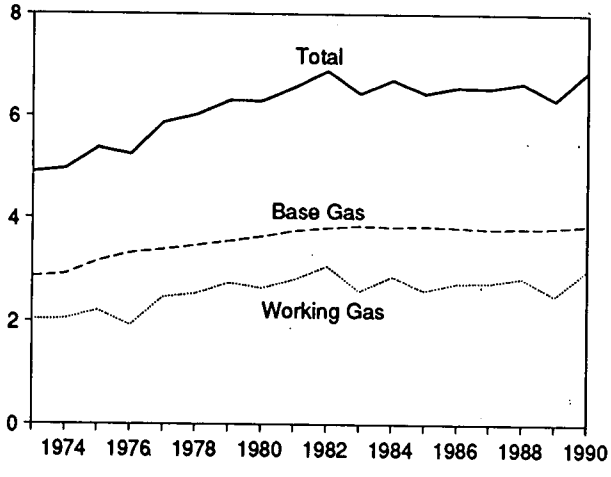

### Consumption by Sector, 1973-1990



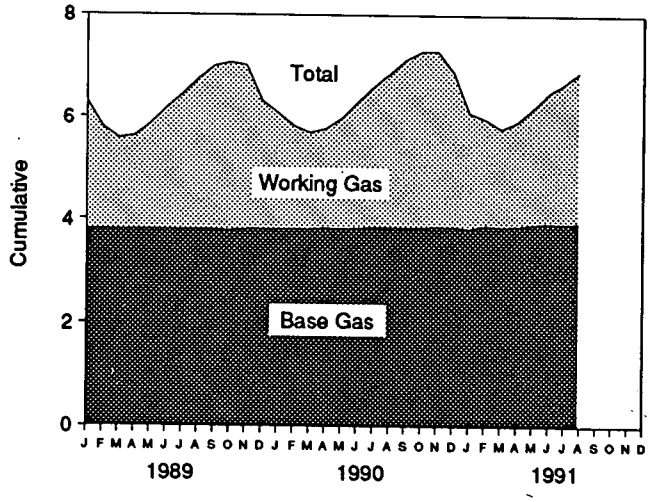

### Consumption by Sector, Monthly




### Underground Storage, End of Year, 1973-1990




### Underground Storage, End of Month




Note: Because vertical scales differ, graphs should not be compared.
Sources: Tables 4.2, 4.3, and 4.4.

# Table 4.1 Natural Gas Production

(Billion Cubic Feet)

| | Gross Withdrawals[a] | Repressuring[b] | Nonhydrocarbon Gases Removed[c] | Vented and Flared[d] | Marketed Production (Wet)[e] | Extraction Loss[f] | Total Dry Gas Production[g] |
|---|---|---|---|---|---|---|---|
| **1973 Total** | **24,067** | **1,171** | **NA** | **248** | **[h] 22,648** | **917** | **[h] 21,731** |
| **1974 Total** | **22,850** | **1,080** | **NA** | **169** | **[h] 21,601** | **887** | **[h] 20,713** |
| **1975 Total** | **21,104** | **861** | **NA** | **134** | **[h] 20,109** | **872** | **[h] 19,236** |
| **1976 Total** | **20,944** | **859** | **NA** | **132** | **[h] 19,952** | **854** | **[h] 19,098** |
| **1977 Total** | **21,097** | **935** | **NA** | **137** | **[h] 20,025** | **863** | **[h] 19,163** |
| **1978 Total** | **21,309** | **1,181** | **NA** | **153** | **[h] 19,974** | **852** | **[h] 19,122** |
| **1979 Total** | **21,883** | **1,245** | **NA** | **167** | **[h] 20,471** | **808** | **[h] 19,663** |
| **1980 Total** | **21,870** | **1,365** | **199** | **125** | **20,180** | **777** | **19,403** |
| **1981 Total** | **21,587** | **1,312** | **222** | **98** | **19,956** | **775** | **19,181** |
| **1982 Total** | **20,210** | **1,388** | **208** | **93** | **18,520** | **762** | **17,758** |
| **1983 Total** | **18,597** | **1,458** | **222** | **95** | **16,822** | **790** | **16,033** |
| **1984 Total** | **20,192** | **1,630** | **224** | **108** | **18,230** | **838** | **17,392** |
| **1985 Total** | **19,534** | **1,915** | **326** | **95** | **17,198** | **816** | **16,382** |
| **1986 Total** | **19,063** | **1,838** | **337** | **98** | **16,791** | **800** | **15,991** |
| **1987 Total** | **20,056** | **2,208** | **376** | **124** | **17,349** | **812** | **16,536** |
| **1988 Total** | **20,922** | **2,478** | **460** | **143** | **17,841** | **816** | **17,026** |
| **1989** January | 1,866 | 219 | 34 | 11 | 1,602 | 70 | 1,532 |
| February | 1,712 | 193 | 29 | 11 | 1,479 | 64 | 1,415 |
| March | 1,809 | 197 | 31 | 13 | 1,568 | 68 | 1,500 |
| April | 1,737 | 203 | 29 | 12 | 1,493 | 65 | 1,428 |
| May | 1,770 | 214 | 31 | 12 | 1,513 | 66 | 1,447 |
| June | 1,683 | 192 | 28 | 12 | 1,451 | 63 | 1,388 |
| July | 1,720 | 199 | 30 | 12 | 1,479 | 64 | 1,415 |
| August | 1,715 | 207 | 28 | 12 | 1,468 | 63 | 1,404 |
| September | 1,644 | 207 | 28 | 12 | 1,397 | 60 | 1,337 |
| October | 1,719 | 211 | 29 | 12 | 1,467 | 64 | 1,403 |
| November | 1,784 | 214 | 31 | 12 | 1,527 | 66 | 1,461 |
| December | 1,850 | 219 | 33 | 12 | 1,586 | 72 | 1,514 |
| **Total** | **21,009** | **2,475** | **362** | **142** | **18,029** | **785** | **17,245** |
| **1990** January | 1,936 | 205 | 32 | 15 | 1,684 | 79 | 1,605 |
| February | 1,714 | 180 | 27 | 9 | 1,498 | 70 | 1,428 |
| March | 1,836 | 207 | 30 | 10 | 1,589 | 74 | 1,515 |
| April | 1,739 | 201 | 29 | 10 | 1,499 | 70 | 1,429 |
| May | 1,774 | 203 | 35 | 11 | 1,525 | 71 | 1,454 |
| June | 1,705 | 191 | 29 | 10 | 1,475 | 69 | 1,406 |
| July | 1,729 | 194 | 30 | 10 | 1,495 | 70 | 1,425 |
| August | 1,743 | 196 | 31 | 10 | 1,506 | 70 | 1,436 |
| September | 1,670 | 189 | 30 | 10 | 1,441 | 67 | 1,374 |
| October | 1,783 | 197 | 31 | 10 | 1,545 | 70 | 1,475 |
| November | 1,815 | 203 | 32 | 11 | 1,569 | 73 | 1,496 |
| December | 1,901 | 213 | 34 | 11 | 1,643 | 77 | 1,566 |
| **Total** | **21,345** | 2,379 | 370 | 127 | **18,469** | **860** | **17,609** |
| **1991** January | 1,902 | 213 | 34 | 11 | 1,644 | 72 | 1,572 |
| February | 1,722 | 192 | 30 | 10 | 1,490 | 65 | 1,425 |
| March | 1,823 | 204 | 32 | 11 | 1,576 | 69 | 1,507 |
| April | 1,742 | 195 | 31 | 10 | 1,506 | 66 | 1,440 |
| May | 1,755 | 196 | 31 | 10 | 1,518 | 66 | 1,452 |
| June | [R] 1,697 | [R] 190 | 30 | 10 | [R] 1,467 | [R] 64 | [R] 1,403 |
| July | [E] 1,740 | [E] 195 | [E] 31 | [E] 10 | [E] 1,504 | [E] 65 | [E] 1,439 |
| August | [E] 1,753 | [E] 196 | [E] 31 | [E] 10 | [E] 1,516 | [E] 66 | [E] 1,450 |
| **8-Month Total** | **[E] 14,134** | **[E] 1,581** | **[E] 250** | **[E] 82** | **[E] 12,222** | **[E] 533** | **[E] 11,688** |
| **1990 8-Month Total** | **14,176** | **1,577** | **243** | **85** | **12,271** | **573** | **11,698** |
| **1989 8-Month Total** | **14,012** | **1,624** | **240** | **95** | **12,052** | **523** | **11,529** |

[a] Gas withdrawn from gas and oil wells.
[b] The injection of natural gas into oil and gas formations for pressure maintenance and cycling purposes.
[c] See Note 1 at end of section.
[d] Vented: Natural gas released into the air on the base site or at processing plants. Flared: Natural gas burned in flares on the base site or at gas processing plants.
[e] Gross Withdrawals minus Repressuring, Nonhydrocarbon Gases Removed, and Vented and Flared. See Note 2 at end of section.
[f] See Note 3 at end of section.
[g] Marketed Production (Wet) minus Extraction Loss.
[h] May include unknown quantities of nonhydrocarbon gases.
R=Revised data. NA=Not available. E=Estimate.
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.
Sources: • 1973-1984: Energy Information Administration (EIA), *Natural Gas Annual 1989*, Table 92. • 1985 forward: EIA, *Natural Gas Monthly*, October 1991, Table 1.

# Table 4.2 Natural Gas Supply and Disposition

(Billion Cubic Feet)

| | Supply | | | | | | Disposition | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total Dry Gas Production | Withdrawals from Storage[a] | Supplemental Gaseous Fuels[b] | Imports[b] | Balancing Item[b] | Total Supply/ Disposition[c] | Additions to Storage[a] | Exports[b] | Consumption[b] |
| **1973 Total** | [d] 21,731 | 1,533 | NA | 1,033 | -196 | 24,101 | 1,974 | 77 | 22,049 |
| **1974 Total** | [d] 20,713 | 1,701 | NA | 959 | -289 | 23,084 | 1,784 | 77 | 21,223 |
| **1975 Total** | [d] 19,236 | 1,760 | NA | 953 | -235 | 21,714 | 2,104 | 73 | 19,538 |
| **1976 Total** | [d] 19,098 | 1,921 | NA | 964 | -216 | 21,767 | 1,756 | 65 | 19,946 |
| **1977 Total** | [d] 19,163 | 1,750 | NA | 1,011 | -41 | 21,883 | 2,307 | 56 | 19,521 |
| **1978 Total** | [d] 19,122 | 2,158 | NA | 966 | -287 | 21,958 | 2,278 | 53 | 19,627 |
| **1979 Total** | [d] 19,663 | 2,047 | NA | 1,253 | -372 | 22,591 | 2,295 | 56 | 20,241 |
| **1980 Total** | 19,403 | 1,972 | 155 | 985 | -640 | 21,875 | 1,949 | 49 | 19,877 |
| **1981 Total** | 19,181 | 1,930 | 176 | 904 | -500 | 21,691 | 2,228 | 59 | 19,404 |
| **1982 Total** | 17,758 | 2,164 | 145 | 933 | -475 | 20,525 | 2,472 | 52 | 18,001 |
| **1983 Total** | 16,033 | 2,270 | 132 | 918 | [e] -641 | 18,712 | 1,822 | 55 | 16,835 |
| **1984 Total** | 17,392 | 2,098 | 110 | 843 | [e] -143 | 20,300 | 2,295 | 55 | 17,951 |
| **1985 Total** | 16,382 | 2,397 | 126 | 950 | -356 | 19,499 | 2,163 | 55 | 17,281 |
| **1986 Total** | 15,991 | 1,837 | 113 | 750 | -427 | 18,266 | 1,984 | 61 | 16,221 |
| **1987 Total** | 16,536 | 1,905 | 101 | 993 | -359 | 19,176 | 1,911 | 54 | 17,211 |
| **1988 Total** | 17,026 | 2,270 | 101 | 1,294 | -376 | 20,315 | 2,211 | 74 | 18,030 |
| **1989** January | 1,532 | 426 | 11 | 119 | -4 | 2,084 | 53 | 7 | 2,024 |
| February | 1,415 | 614 | 10 | 110 | -101 | 2,048 | 32 | 7 | 2,009 |
| March | 1,500 | 369 | 10 | 113 | 72 | 2,064 | 106 | 11 | 1,947 |
| April | 1,428 | 138 | 8 | 110 | 93 | 1,777 | 184 | 11 | 1,582 |
| May | 1,447 | 44 | 8 | 108 | 77 | 1,684 | 326 | 8 | 1,350 |
| June | 1,388 | 20 | 7 | 104 | 72 | 1,591 | 381 | 9 | 1,201 |
| July | 1,415 | 29 | 8 | 101 | 55 | 1,608 | 377 | 9 | 1,222 |
| August | 1,404 | 29 | 8 | 108 | 39 | 1,588 | 362 | 9 | 1,217 |
| September | 1,337 | 39 | 7 | 117 | 16 | 1,516 | 325 | 9 | 1,182 |
| October | 1,403 | 96 | 9 | 123 | -57 | 1,574 | 225 | 10 | 1,339 |
| November | 1,461 | 227 | 9 | 123 | -139 | 1,681 | 105 | 8 | 1,568 |
| December | 1,514 | 821 | 12 | 145 | -275 | 2,217 | 52 | 8 | 2,157 |
| **Total** | **17,245** | **2,850** | **107** | **1,382** | **-149** | **21,435** | **2,529** | **107** | **18,799** |
| **1990** January | 1,605 | 339 | 11 | 140 | [R] 132 | [R] 2,227 | 91 | 14 | [R] 2,122 |
| February | 1,428 | 324 | 9 | 118 | [R] 31 | [R] 1,910 | 70 | 8 | [R] 1,832 |
| March | 1,515 | 256 | 10 | 116 | [R] 31 | [R] 1,928 | 124 | 11 | [R] 1,793 |
| April | 1,429 | 140 | 9 | 123 | [R] 92 | [R] 1,793 | 183 | 6 | [R] 1,604 |
| May | 1,454 | 45 | 8 | 123 | [R] 68 | [R] 1,698 | 289 | 6 | [R] 1,403 |
| June | 1,406 | 42 | 7 | 117 | [R] 54 | [R] 1,626 | 327 | 6 | [R] 1,293 |
| July | 1,425 | 27 | 9 | 120 | [R] 31 | [R] 1,612 | 325 | 5 | [R] 1,282 |
| August | 1,436 | 37 | 8 | 118 | [R] 37 | [R] 1,636 | 321 | 5 | [R] 1,310 |
| September | 1,374 | 36 | 8 | 120 | [R] 31 | [R] 1,569 | 284 | 7 | [R] 1,278 |
| October | 1,475 | 61 | 8 | 142 | [R] -70 | [R] 1,616 | 214 | 6 | [R] 1,396 |
| November | 1,496 | 144 | 9 | 140 | [R] -94 | [R] 1,695 | 136 | 6 | [R] 1,553 |
| December | 1,566 | 467 | 11 | 156 | -173 | 2,027 | 72 | 7 | 1,948 |
| **Total** | **17,609** | **1,918** | **105** | **1,532** | [R] **173** | [R] **21,337** | **2,436** | **86** | [R] **18,815** |
| **1991** January | 1,572 | 632 | 10 | 156 | [R] -22 | [R] 2,348 | 57 | 8 | [R] 2,283 |
| February | 1,425 | 360 | 9 | 131 | [R] 47 | [R] 1,972 | [R] 60 | 7 | [R] 1,905 |
| March | 1,507 | 262 | 10 | 119 | [R] 35 | [R] 1,933 | 98 | 9 | [R] 1,826 |
| April | 1,440 | 83 | 9 | 145 | [R] 96 | [R] 1,773 | 212 | 8 | [R] 1,553 |
| May | 1,452 | 31 | 9 | 128 | [R] 34 | [R] 1,654 | 306 | 6 | [R] 1,342 |
| June | [R] 1,403 | 20 | [R] 7 | 125 | [R] -35 | [R] 1,520 | [R] 308 | 8 | [R] 1,204 |
| July | [E] 1,439 | 46 | 9 | 132 | [R] -63 | [R] 1,563 | 266 | 6 | [R] 1,291 |
| August | [E] 1,450 | 54 | 9 | 131 | -66 | 1,578 | 256 | 7 | 1,315 |
| **8-Month Total** | [E] **11,688** | **1,488** | **72** | **1,067** | **26** | **14,341** | **1,563** | **59** | **12,719** |
| **1990 8-Month Total** | **11,698** | **1,210** | **71** | **975** | **476** | **14,430** | **1,730** | **61** | **12,639** |
| **1989 8-Month Total** | **11,529** | **1,669** | **70** | **873** | **303** | **14,444** | **1,821** | **71** | **12,552** |

[a] Data for 1980-1989 include underground storage and liquefied natural gas storage. All other data include underground storage only. Computation procedures are discussed in Note 8 at end of section.

[b] See Notes at end of section.

[c] Data for 1978 forward do not include in-transit receipts and deliveries.

[d] May include unknown quantities of nonhydrocarbon gases.

[e] See Note 7 at end of section.

R=Revised data. NA=Not available. E=Estimate.

Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

Sources: • 1973-1984: **Total Dry Gas Production**—Energy Information Administration (EIA), *Natural Gas Annual 1989*, Table 92. **Supplemental Gaseous Fuels**—EIA, *Natural Gas Annual 1988, Volume II*, Table 12. **Withdrawals from Storage**—1973-1975 and 1980-1984: EIA, *Natural Gas Annual 1989*, Table 93. 1976-1979: EIA, *Natural Gas Production and Consumption 1979*, Table 1. **Imports; Additions to Storage; Exports; and Consumption**—EIA, *Natural Gas Annual 1989*, Table 93. **Total Supply/Disposition**—Sum of disposition items. **Balancing Item**—Total supply/disposition minus all other supply items. • 1985 forward: EIA, *Natural Gas Monthly*, October 1991, Table 2.

# Table 4.3 Natural Gas Consumption by End-Use Sector

(Billion Cubic Feet)

| | Lease and Plant Fuel | Pipeline Fuel[a] | Delivered to Consumers | | | | | Total Consumption |
|---|---|---|---|---|---|---|---|---|
| | | | Residential | Commercial | Industrial | Electric Utilities | Total | |
| **1973 Total** | **1,496** | **728** | **4,879** | **2,597** | **8,689** | **3,660** | **19,825** | **22,049** |
| **1974 Total** | **1,477** | **669** | **4,786** | **2,556** | **8,292** | **3,443** | **19,077** | **21,223** |
| **1975 Total** | **1,396** | **583** | **4,924** | **2,508** | **6,968** | **3,158** | **17,558** | **19,538** |
| **1976 Total** | **1,634** | **548** | **5,051** | **2,668** | **6,964** | **3,081** | **17,764** | **19,946** |
| **1977 Total** | **1,659** | **533** | **4,821** | **2,501** | **6,815** | **3,191** | **17,329** | **19,521** |
| **1978 Total** | **1,648** | **530** | **4,903** | **2,601** | **6,757** | **3,188** | **17,449** | **19,627** |
| **1979 Total** | **1,499** | **601** | **4,965** | **2,786** | **6,899** | **3,491** | **18,141** | **20,241** |
| **1980 Total** | **1,026** | **635** | **4,752** | **2,611** | **7,172** | **3,682** | **18,216** | **19,877** |
| **1981 Total** | **928** | **642** | **4,546** | **2,520** | **7,128** | **3,640** | **17,834** | **19,404** |
| **1982 Total** | **1,109** | **596** | **4,633** | **2,606** | **5,831** | **3,226** | **16,295** | **18,001** |
| **1983 Total** | **978** | **490** | **4,381** | **2,433** | **5,643** | **2,911** | **15,367** | **16,835** |
| **1984 Total** | **1,077** | **529** | **4,555** | **2,524** | **6,154** | **3,111** | **16,345** | **17,951** |
| **1985 Total** | **966** | **504** | **4,433** | **2,432** | **5,901** | **3,044** | **15,811** | **17,281** |
| **1986 Total** | **923** | **485** | **4,314** | **2,318** | **5,579** | **2,602** | **14,814** | **16,221** |
| **1987 Total** | **1,149** | **519** | **4,315** | **2,430** | **5,953** | **2,844** | **15,542** | **17,211** |
| **1988 Total** | **1,096** | **614** | **4,630** | **2,670** | **6,383** | **2,636** | **16,320** | **18,030** |
| **1989** January | 95 | 57 | 751 | 376 | 598 | 147 | 1,872 | 2,024 |
| February | 88 | 57 | 742 | 380 | 570 | 172 | 1,864 | 2,009 |
| March | 93 | 54 | 645 | 342 | 602 | 211 | 1,800 | 1,947 |
| April | 88 | 49 | 414 | 233 | 563 | 235 | 1,445 | 1,582 |
| May | 89 | 51 | 256 | 159 | 544 | 251 | 1,210 | 1,350 |
| June | 86 | 50 | 155 | 121 | 529 | 260 | 1,065 | 1,201 |
| July | 88 | 50 | 129 | 110 | 525 | 320 | 1,084 | 1,222 |
| August | 87 | 50 | 121 | 110 | 539 | 310 | 1,080 | 1,217 |
| September | 82 | 48 | 139 | 113 | 532 | 268 | 1,052 | 1,182 |
| October | 87 | 49 | 228 | 152 | 568 | 254 | 1,203 | 1,339 |
| November | 90 | 50 | 405 | 231 | 603 | 189 | 1,428 | 1,568 |
| December | 97 | 65 | 790 | 391 | 643 | 171 | 1,995 | 2,157 |
| **Total** | **1,070** | **630** | **4,777** | **2,719** | **6,816** | **2,787** | **17,099** | **18,799** |
| **1990** January | 111 | 53 | 785 | R400 | R628 | 146 | R1,958 | R2,122 |
| February | 99 | 48 | 639 | R336 | R578 | 132 | R1,685 | R1,832 |
| March | 105 | 48 | 549 | R301 | R606 | 184 | R1,640 | R1,793 |
| April | 99 | 44 | 398 | R236 | R628 | 199 | R1,461 | R1,604 |
| May | 101 | 47 | 247 | 158 | R606 | 244 | R1,255 | R1,403 |
| June | 97 | 44 | 160 | 124 | R570 | 297 | R1,152 | R1,293 |
| July | 97 | 49 | 126 | 123 | R561 | 326 | R1,136 | R1,282 |
| August | 98 | 49 | 121 | R115 | R585 | 342 | R1,163 | R1,310 |
| September | 95 | 47 | 131 | R121 | R582 | 301 | R1,136 | R1,278 |
| October | 99 | 44 | 212 | 151 | R634 | 256 | R1,253 | R1,396 |
| November | 104 | 49 | 373 | 224 | R618 | 185 | R1,400 | R1,553 |
| December | 109 | 51 | R626 | R332 | 654 | 175 | 1,788 | 1,948 |
| **Total** | **1,214** | **573** | **R4,368** | **R2,622** | **R7,251** | **2,786** | **R17,028** | **R18,815** |
| **1991** January | 109 | 58 | 847 | 433 | R665 | 171 | R2,116 | R2,283 |
| February | 99 | 50 | 668 | 359 | R583 | 146 | R1,756 | R1,905 |
| March | 104 | 51 | 575 | 310 | R594 | 192 | R1,671 | R1,826 |
| April | 100 | 48 | 375 | 226 | R589 | 215 | R1,405 | R1,553 |
| May | 100 | 48 | 230 | R154 | R561 | 249 | R1,194 | R1,342 |
| June | R97 | 44 | R148 | R120 | R536 | 260 | R1,063 | R1,204 |
| July | 100 | 42 | 127 | 127 | 566 | 330 | 1,149 | R1,291 |
| **7-Month Total** | **709** | **341** | **2,970** | **1,730** | **4,093** | **1,562** | **10,355** | **11,404** |
| **1990 7-Month Total** | **709** | **333** | **2,905** | **1,679** | **4,177** | **1,527** | **10,287** | **11,329** |
| **1989 7-Month Total** | **627** | **368** | **3,093** | **1,721** | **3,931** | **1,596** | **10,340** | **11,335** |

[a] Natural gas consumed in the operation of pipelines, primarily in compressors.

R=Revised data.

Notes: • Natural gas includes supplemental gaseous fuels. • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

Sources: • 1973-1984: Energy Information Administration (EIA), *Natural Gas Annual 1989*, Table 94. • 1985 forward: EIA, *Natural Gas Monthly*, October 1991, Table 3.

# Table 4.4 Natural Gas in Underground Storage

(Volumes in Billion Cubic Feet)

| | Natural Gas in Underground Storage, End of Period | | | Change in Working Gas from Same Period Previous Year | | Storage Activity | | |
|---|---|---|---|---|---|---|---|---|
| | Base Gas | Working Gas | Total[a] | Volume | Percent | Injections[b] | Withdrawals[b] | Net[c] |
| **1973 Total** | **2,864** | **2,034** | **4,898** | **305** | **17.6** | **1,974** | **1,533** | **442** |
| **1974 Total** | **2,912** | **2,050** | **4,962** | **16** | **.8** | **1,784** | **1,701** | **84** |
| **1975 Total** | **3,162** | **2,212** | **5,374** | **162** | **7.9** | **2,104** | **1,760** | **344** |
| **1976 Total** | **3,323** | **1,926** | **5,250** | **-286** | **-12.9** | **1,756** | **1,921** | **-165** |
| **1977 Total** | **3,391** | **2,475** | **5,866** | **549** | **28.5** | **2,307** | **1,750** | **557** |
| **1978 Total** | **3,473** | **2,547** | **6,020** | **72** | **2.9** | **2,278** | **2,158** | **120** |
| **1979 Total** | **3,553** | **2,753** | **6,306** | **207** | **8.1** | **2,295** | **2,047** | **248** |
| **1980 Total** | **3,642** | **2,655** | **6,297** | **-99** | **-3.6** | **1,896** | **1,910** | **-14** |
| **1981 Total** | **3,752** | **2,817** | **6,569** | **162** | **6.1** | **2,180** | **1,887** | **293** |
| **1982 Total** | **3,808** | **3,071** | **6,879** | **255** | **9.0** | **2,399** | **2,094** | **306** |
| **1983 Total** | **3,847** | **2,595** | **6,442** | **-476** | **-15.5** | **1,700** | **2,142** | **-442** |
| **1984 Total** | **3,830** | **2,876** | **6,706** | **281** | **10.8** | **2,252** | **2,064** | **188** |
| **1985 Total** | **3,842** | **2,607** | **6,448** | **-270** | **-9.4** | **2,128** | **2,359** | **-231** |
| **1986 Total** | **3,819** | **2,749** | **6,567** | **142** | **5.5** | **1,952** | **1,812** | **140** |
| **1987 Total** | **3,792** | **2,756** | **6,548** | **7** | **.3** | **1,887** | **1,881** | **6** |
| **1988 Total** | **3,800** | **2,850** | **6,650** | **94** | **3.4** | **2,174** | **2,244** | **-69** |
| 1989 January | 3,798 | 2,509 | 6,307 | 281 | 12.6 | 53 | 418 | -365 |
| February | 3,801 | 1,994 | 5,796 | 168 | 9.2 | 32 | 602 | -570 |
| March | 3,801 | 1,776 | 5,578 | 94 | 5.6 | 106 | 362 | -256 |
| April | 3,801 | 1,823 | 5,624 | 54 | 3.0 | 181 | 138 | 43 |
| May | 3,802 | 2,062 | 5,863 | 34 | 1.7 | 321 | 44 | 277 |
| June | 3,802 | 2,374 | 6,176 | 82 | 3.6 | 375 | 20 | 355 |
| July | 3,802 | 2,644 | 6,446 | 77 | 3.0 | 371 | 29 | 341 |
| August | 3,802 | 2,938 | 6,740 | 103 | 3.6 | 356 | 29 | 328 |
| September | 3,802 | 3,187 | 6,990 | 67 | 2.2 | 320 | 39 | 281 |
| October | 3,792 | 3,268 | 7,061 | 25 | .8 | 221 | 96 | 124 |
| November | 3,809 | 3,199 | 7,008 | 28 | .9 | 105 | 223 | -118 |
| December | 3,812 | 2,513 | 6,325 | -337 | -11.8 | 52 | 805 | -752 |
| Total | 3,812 | 2,513 | 6,325 | -337 | -11.8 | 2,493 | 2,804 | -311 |
| 1990 January | 3,818 | 2,265 | 6,083 | -243 | -9.7 | 91 | 339 | -248 |
| February | 3,814 | 2,013 | 5,827 | 19 | .9 | 70 | 324 | -253 |
| March | 3,818 | 1,878 | 5,695 | 101 | 5.7 | 124 | 256 | -131 |
| April | 3,839 | 1,932 | 5,771 | 109 | 6.0 | 183 | 140 | 43 |
| May | 3,823 | 2,159 | 5,982 | 97 | 4.7 | 289 | 45 | 245 |
| June | 3,844 | 2,454 | 6,297 | 79 | 3.3 | 327 | 42 | 285 |
| July | 3,850 | 2,747 | 6,597 | 103 | 3.9 | 325 | 27 | 298 |
| August | 3,851 | 2,995 | 6,846 | 57 | 1.9 | 321 | 37 | 283 |
| September | 3,852 | 3,267 | 7,119 | 80 | 2.5 | 284 | 36 | 248 |
| October | 3,852 | 3,426 | 7,277 | 158 | 4.8 | 214 | 61 | 153 |
| November | 3,868 | 3,417 | 7,285 | 218 | 6.8 | 136 | 144 | -8 |
| December | 3,868 | 3,009 | 6,876 | 496 | 19.7 | 72 | 467 | -395 |
| Total | 3,868 | 3,009 | 6,876 | 496 | 19.7 | 2,436 | 1,918 | 520 |
| 1991 January | 3,831 | 2,262 | 6,094 | -3 | -.1 | 57 | 632 | -576 |
| February | 3,889 | 2,080 | 5,969 | 67 | 3.3 | 60 | 360 | -300 |
| March | 3,865 | 1,912 | 5,777 | 34 | 1.8 | 98 | 262 | -164 |
| April | 3,878 | 2,039 | 5,917 | 107 | 5.5 | 212 | 83 | 129 |
| May | 3,914 | 2,279 | 6,192 | 120 | 5.6 | 306 | 31 | 276 |
| June | 3,942 | 2,548 | 6,490 | 94 | 3.8 | 308 | 20 | 288 |
| July | 3,923 | 2,750 | 6,673 | 3 | .1 | 266 | 46 | 220 |
| August | 3,939 | 2,971 | 6,910 | -24 | -.8 | 256 | 54 | 202 |

[a] Total underground storage capacity at the end of each calendar year (in billion cubic feet): 1975–6,280(first data available); 1976–6,544; 1977–6,678; 1978–6,890; 1979–6,929; 1980–7,434; 1981–7,805; 1982–7,915; 1983–7,985; 1984–8,043; 1985–8,087; 1986–8,145; 1987 and 1988–8,124; and 1989–8,124. Current capacity is 8,125.

[b] For 1980-1989, data differ from those shown on Table 4.2, which includes liquefied natural gas storage for that period.

[c] Positive numbers indicate injections are greater than withdrawals. Negative numbers indicate withdrawals are greater than injections. Net injections or withdrawals may not equal the difference between applicable ending stocks. See Note 8 at end of section.

Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

Sources: • **Storage Activity**—1973-1975: Energy Information Administration (EIA), *Natural Gas Annual 1988, Volume II*, Table 9. 1976-1979: EIA, *Natural Gas Production and Consumption 1979*, Table 1. 1980-1984: EIA, *Natural Gas Annual 1988, Volume II*, Table 11. 1985 forward: EIA, *Natural Gas Monthly*, October 1991, Table 17. • **Other Data**—1973: American Gas Association (AGA), *Gas Facts, 1972 Data*, Table 57, and *Gas Facts, 1973 Data, Table 57. 1974: AGA, Gas Facts, 1974 Data*, Table 40. 1975 and 1976: Federal Energy Administration, Form FEA-G318-M-O, and Federal Power Commission (FPC), Form FPC-8. 1977 and 1978: EIA, Form FEA-G318-M-O, and Federal Energy Regulatory Commission (FERC), Form FERC-8. 1979-1984: EIA, Form EIA-191, and FERC, Form FERC-8. 1985 forward: EIA, *Natural Gas Monthly*, October 1991, Table 17.

# Natural Gas Notes

**1. Nonhydrocarbon Gases Removed:** Annual data on nonhydrocarbon gases removed from marketed production—carbon dioxide, helium, hydrogen sulfide, and nitrogen—are from the Energy Information Administration (EIA) *Natural Gas Annual (NGA) 1989*. Data are not available for periods prior to 1980. Monthly data are reported by three States and computed for six States. Monthly data are preliminary until after publication of the EIA *NGA*. Differences between annual data published in the EIA *NGA* and the sum of the preliminary monthly data (January-December) are allocated proportionally to the months to create final monthly data. For further information on methods of estimating preliminary monthly data, see the EIA *Natural Gas Monthly (NGM)*.

**2. Production:** Annual data. Final annual data are from the EIA *NGA*.

Estimated monthly data. Data for the two most recent months presented are estimated. Some of the data for earlier months are also estimated or computed. For a discussion of computation and estimation procedures, see the EIA *NGM*.

Preliminary Monthly data. Monthly data are considered preliminary until after publication of the EIA *NGA*. Preliminary monthly data are gathered from reports to the Interstate Oil Compact Commission and the U.S. Minerals Management Service. Volumetric data are converted, as necessary, to a standard 14.73 psi pressure base. Unless there are major changes, data are not revised until after publication of the EIA *NGA*.

Final monthly data. Differences between annual data in the EIA *NGA* and the sum of preliminary monthly data (January-December) are allocated proportionally to the months to create final monthly data.

**3. Extraction Loss:** Extraction loss is the reduction in volume of natural gas resulting from the removal of natural gas liquid constituents at natural gas processing plants.

Annual data for extraction loss are from the EIA *NGA*, where they are estimated on the basis of the type and quantity of liquid products extracted from the gas stream and the calculated volume of such products at standard conditions. For a detailed explanation of the calculations used to derive estimated extraction losses, see the EIA *NGA*.

Preliminary monthly data are estimated on the basis of extraction loss as an annual percentage of marketed production. This percentage is applied to each month's marketed production to estimate monthly extraction loss.

Monthly data are revised and considered final after the publication of the EIA *NGA*. Final monthly data are estimated by allocating annual extraction loss data to the months on the basis of total natural gas marketed production data from the EIA *NGA*.

**4. Supplemental Gaseous Fuels:** Supplemental gaseous fuels are mainly synthetic natural gas, propane-air, and refinery gas. Other gases, such as coke oven gas, biomass gas, manufactured gas, and air injected for Btu stabilization, may also be included.

Annual data beginning with 1980 are from the EIA *NGA*. Unknown quantities of supplemental gaseous fuels are included in consumption data for 1979 and earlier years.

Monthly data are considered preliminary until after the publication of the EIA *NGA*. Monthly estimates are based on the annual ratio of supplemental gaseous fuels to the sum of dry gas production, net imports, and net withdrawals from storage. The ratio is applied to the monthly sum of the three elements to compute a monthly supplemental gaseous fuels figure.

**5. Imports and Exports:** The United States imported natural gas via pipeline from Mexico (until 1984) and Canada and liquefied natural gas (LNG) (except in 1986) via tanker from Algeria. One shipment of LNG was received in December 1986 from Indonesia. The United States exports natural gas via pipeline to Mexico and Canada and LNG via tanker to Japan.

Annual and final monthly data are from the annual Form FPC-14, "Annual Report for Importers and Exporters of Natural Gas," which requires data to be reported by month for the calendar year.

Preliminary monthly data are EIA estimates. For a discussion of estimation procedures, see the EIA *NGM*. Preliminary data are revised after the publication of the EIA *U.S. Imports and Exports of Natural Gas*.

**6. Consumption:** Consumption includes pipeline fuel use, lease and plant fuel use, and deliveries to consuming sectors.

Final data are from the EIA *NGA*. Monthly data are considered preliminary until after publication of the EIA *NGA*. For more detailed information on the methods of estimating preliminary and final monthly data, see the EIA *NGM*.

**7. Balancing Item:** The balancing item for natural gas represents the difference between the sum of the components of natural gas supply and the sum of com-

ponents of natural gas disposition. The differences may be due to quantities lost or to the effects of data reporting problems. Reporting problems include differences due to the net result of conversions of flow data metered at varying temperature and pressure bases and converted to a standard temperature and pressure base; the effect of variations in company accounting and billing practices; differences between billing cycle and calendar period time frames; and imbalances resulting from the merger of data reporting systems which vary in scope, format, definitions, and type of respondents.

The increase of 0.2 trillion cubic feet (Tcf) in the "Balancing Item" category in 1983, followed by a decline of 0.5 trillion cubic feet in 1984, reflected unusually large differences resulting from the use of the annual billing cycle (essentially December 15 through the following December 14) consumption data in conjunction with calendar year supply data. Record cold temperatures during the last half of December 1983 resulted in a reported 0.3 Tcf increase in net withdrawals from underground storage for peak shaving as compared with the same period in 1982, but the effect of this cold weather was reflected primarily in 1984 consumption data. For underground storage data, see Table F2 in the May 1985 *NGM*, which was published in July 1985.

**8. Natural Gas Storage:** Gas in storage at the end of a reporting period may not equal the quantity derived by adding or subtracting net injections or withdrawals from the quantity in storage at the end of the previous period. The difference is due to changes in the quantity of native gas included in the base gas and/or losses in base gas due to migration from storage reservoirs.

Monthly underground storage data are collected from the Forms FERC-8 (interstate data) and EIA-191 (intrastate data). Beginning in January 1991, all data are collected on the revised Form EIA-191. Injection and withdrawal data from the FERC-8/EIA-191 survey are adjusted to correspond to data from Form EIA-176 following publication of the EIA *NGA*.

The final monthly and annual storage and withdrawal data for 1980-1989 include both underground and liquefied natural gas (LNG) storage. Annual data on LNG additions and withdrawals are from Form EIA-176. Monthly data are estimated by computing the ratio of each month's underground storage additions and withdrawals to annual underground storage additions and withdrawals and applying the ratio to the annual LNG data.

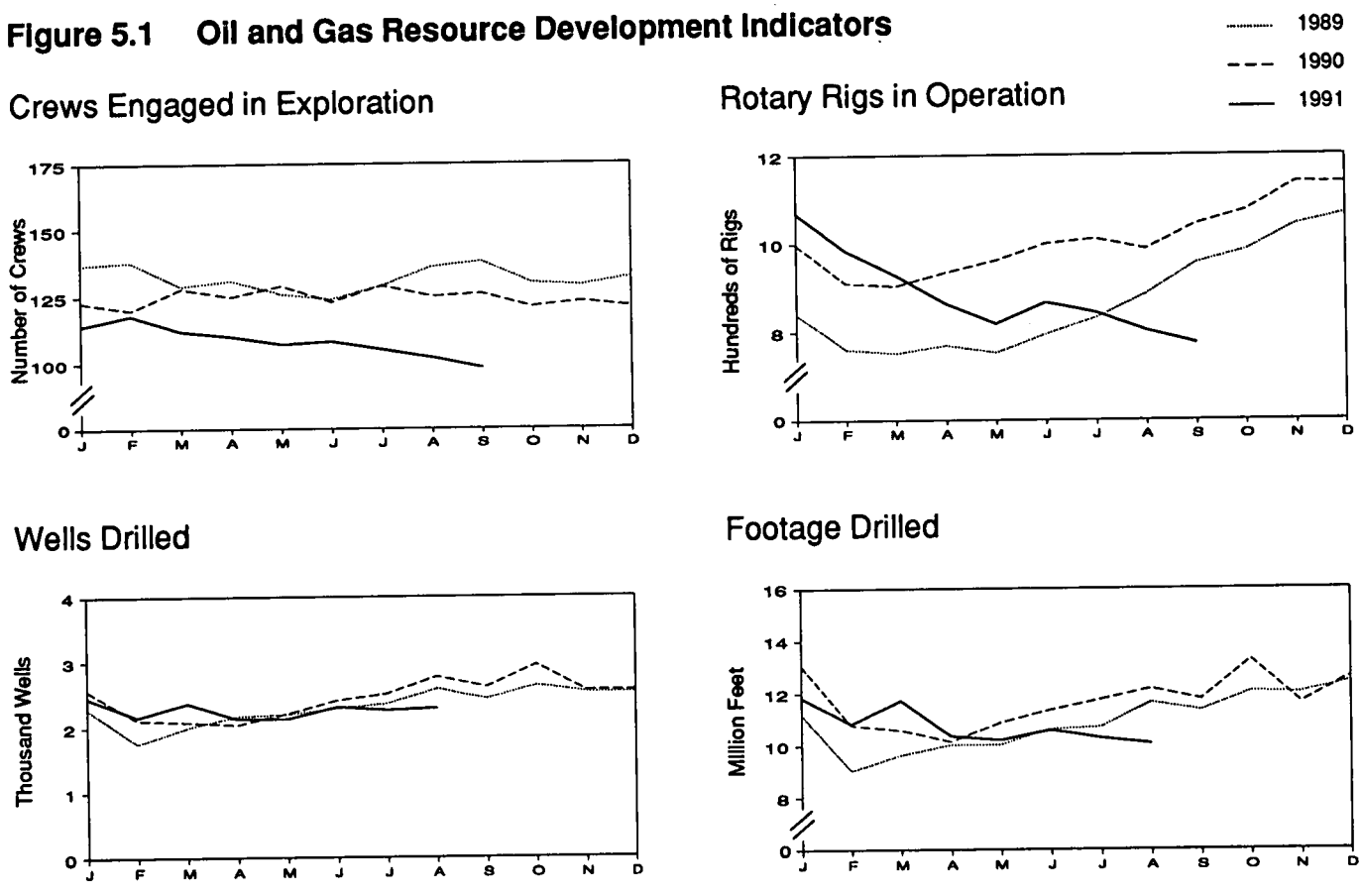
# Section 5. Oil and Gas Resource Development

A total of 98 seismic exploration crews were active in September 1991, 28 fewer than a year earlier. Of the total, 84 were land crews and 14 were aboard marine vessels. The number of land crews was down by 17, and the number of operating marine vessels decreased by 11 vessels from the September 1990 count.

The September 1991 rotary rig count of 775 was 3 percent lower than in the previous month and 26 percent lower than in September 1990. Of the total number of rigs in operation, 704 were onshore and 71 were offshore. The number of onshore rigs was down 25 percent from the number in September 1990, and the number of offshore rigs was down 34 percent.

The estimated number of exploratory and development gas and oil wells drilled during August 1991 was 1,720, 3 percent higher than in July 1991 and 16 percent lower than in August 1990. The estimated number of oil wells drilled was 970, down 10 percent and the estimated number of gas wells was 750, down 23 percent, from the August 1990 levels. The estimated number of dry holes drilled in August 1991 was 580, unchanged from July 1991 and 19 percent lower than in August 1990. The total footage drilled in August 1991 was 10.07 million feet, down 2 percent from footage drilled in July 1991 and down 17 percent from that drilled in August 1990.

## Figure 5.1 Oil and Gas Resource Development Indicators




Sources: Tables 5.1 and 5.2.

# Table 5.1 Seismic Crews and Rotary Rigs

| | Crews Engaged in Seismic Exploration | | | Rotary Rigs in Operation[a] | | |
|---|---|---|---|---|---|---|
| | Offshore | Onshore | Total | Offshore | Onshore | Total |
| | Monthly Average | | | Weekly Average | | |
| **1973 Average** | **23** | **227** | **250** | **84** | **1,110** | **1,194** |
| **1974 Average** | **31** | **274** | **305** | **94** | **1,378** | **1,472** |
| **1975 Average** | **30** | **254** | **284** | **106** | **1,554** | **1,660** |
| **1976 Average** | **25** | **237** | **262** | **129** | **1,529** | **1,658** |
| **1977 Average** | **27** | **281** | **308** | **167** | **1,834** | **2,001** |
| **1978 Average** | **25** | **327** | **352** | **185** | **2,074** | **2,259** |
| **1979 Average** | **30** | **370** | **400** | **207** | **1,970** | **2,177** |
| **1980 Average** | **37** | **493** | **530** | **231** | **2,678** | **2,909** |
| **1981 Average** | **44** | **637** | **681** | **256** | **3,714** | **3,970** |
| **1982 Average** | **57** | **531** | **588** | **243** | **2,862** | **3,105** |
| **1983 Average** | **47** | **426** | **473** | **199** | **2,033** | **2,232** |
| **1984 Average** | **49** | **445** | **494** | **213** | **2,215** | **2,428** |
| **1985 Average** | **45** | **333** | **378** | **206** | **1,774** | **1,980** |
| **1986 Average** | **24** | **176** | **201** | **99** | **865** | **964** |
| **1987 Average** | **24** | **153** | **176** | **95** | **841** | **936** |
| **1988 Average** | **29** | **153** | **182** | **123** | **813** | **936** |
| 1989 January | 25 | 112 | 137 | 110 | 731 | 841 |
| February | 23 | 115 | 138 | 95 | 667 | 762 |
| March | 21 | 108 | 129 | 93 | 660 | 753 |
| April | 22 | 109 | 131 | 92 | 679 | 771 |
| May | 22 | 104 | 126 | 92 | 662 | 754 |
| June | 22 | 102 | 124 | 103 | 692 | 795 |
| July | 22 | 107 | 129 | 114 | 718 | 832 |
| August | 26 | 110 | 136 | 114 | 772 | 886 |
| September | 24 | 114 | 138 | 107 | 848 | 955 |
| October | 21 | 109 | 130 | 106 | 878 | 984 |
| November | 20 | 109 | 129 | 119 | 922 | 1,041 |
| December | 20 | 112 | 132 | 117 | 948 | 1,065 |
| **Average** | **23** | **109** | **132** | **105** | **764** | **869** |
| 1990 January | 20 | 103 | 123 | 113 | 885 | 998 |
| February | 20 | 100 | 120 | 105 | 806 | 911 |
| March | 21 | 107 | 128 | 108 | 797 | 905 |
| April | 24 | 101 | 125 | 111 | 824 | 935 |
| May | 25 | 104 | 129 | 120 | 841 | 961 |
| June | 23 | 100 | 123 | 113 | 886 | 999 |
| July | 24 | 105 | 129 | 108 | 902 | 1,010 |
| August | 23 | 102 | 125 | 108 | 879 | 987 |
| September | 25 | 101 | 126 | 107 | 935 | 1,042 |
| October | 23 | 98 | 121 | 99 | 974 | 1,073 |
| November | 23 | 100 | 123 | 106 | 1,031 | 1,137 |
| December | 23 | 98 | 121 | 101 | 1,035 | 1,136 |
| **Average** | **23** | **102** | **125** | **108** | **902** | **1,010** |
| 1991 January | 22 | 92 | 114 | 91 | 977 | 1,068 |
| February | 21 | 97 | 118 | 88 | 896 | 984 |
| March | 24 | 88 | 112 | 81 | 848 | 929 |
| April | 23 | 87 | 110 | 95 | 770 | 865 |
| May | 22 | 85 | 107 | 98 | 721 | 819 |
| June | 21 | 87 | 108 | 93 | 774 | 867 |
| July | 16 | 89 | 105 | 80 | 764 | 844 |
| August | 15 | 87 | 102 | 68 | 735 | 803 |
| September | 14 | 84 | 98 | 71 | 704 | 775 |
| **9-Month Average** | **20** | **88** | **108** | **82** | **798** | **880** |
| **1990 9-Month Average** | **23** | **103** | **125** | **110** | **863** | **973** |
| **1989 9-Month Average** | **23** | **109** | **132** | **102** | **714** | **816** |

[a] Monthly data are averages of 4- or 5-week reporting periods, not calendar months. Annual data are averages of 52- or 53-week reporting periods, not calendar years.

Notes: Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

Sources • Crews Engaged in Seismic Exploration: Society of Exploration Geophysicists, "Monthly Seismic Crew Count," and annual reports in *Geophysics: The Leading Edge of Exploration.* • Rotary Rigs in Operation: Hughes Tool Company, "Rotary Rigs Running–by State."

# Table 5.2 Oil and Gas Exploratory and Development Wells

| | Wells Drilled | | | | Footage Drilled |
|---|---|---|---|---|---|
| | Oil | Gas | Dry | Total | |
| | Thousand Wells | | | | Million Feet |
| **1973 Total** | 10.25 | 6.98 | 10.47 | 27.69 | 139.42 |
| **1974 Total** | 13.66 | 7.17 | 12.21 | 33.04 | 153.79 |
| **1975 Total** | 16.98 | 8.17 | 13.74 | 38.89 | 181.05 |
| **1976 Total** | 17.70 | 9.44 | 13.81 | 40.94 | 187.29 |
| **1977 Total** | 18.70 | 12.12 | 15.04 | 45.86 | 215.70 |
| **1978 Total** | 19.07 | 14.41 | 16.59 | 50.06 | 238.39 |
| **1979 Total** | 20.70 | 15.17 | 16.04 | 51.91 | 243.69 |
| **1980 Total** | 32.28 | 17.22 | 20.34 | 69.84 | 312.30 |
| **1981 Total** | 42.84 | 19.91 | 27.28 | 90.03 | 408.84 |
| **1982 Total** | 39.13 | 18.94 | 26.38 | 84.45 | 378.39 |
| **1983 Total** | 37.12 | 14.53 | 24.30 | 75.95 | 318.09 |
| **1984 Total** | 42.51 | 16.99 | 25.73 | 85.23 | 370.20 |
| **1985 Total** | 34.94 | 14.23 | 21.09 | 70.26 | 311.77 |
| **1986 Total** | 18.76 | 8.20 | 12.89 | 39.85 | 178.19 |
| **1987 Total** | 16.22 | 7.82 | 11.63 | 35.68 | 162.17 |
| **1988 Total** | 13.42 | 8.33 | R10.19 | R31.93 | R153.51 |
| 1989 January | .84 | .79 | .66 | 2.28 | 11.19 |
| February | .61 | .66 | .49 | 1.75 | 9.03 |
| March | .70 | .66 | .63 | 2.00 | 9.63 |
| April | .89 | .61 | .66 | 2.17 | 10.03 |
| May | .90 | .63 | .67 | 2.20 | 10.03 |
| June | .84 | .73 | .71 | 2.29 | 10.62 |
| July | .87 | .78 | .70 | 2.36 | 10.70 |
| August | .99 | R.85 | .73 | R2.58 | R11.64 |
| September | .85 | .83 | .74 | 2.43 | 11.34 |
| October | .96 | .85 | .82 | 2.63 | 12.05 |
| November | .94 | .84 | .75 | 2.53 | 12.00 |
| December | .94 | .83 | .75 | 2.53 | 12.43 |
| **Total** | 10.34 | R9.07 | 8.33 | R27.74 | R130.71 |
| 1990 January | R1.00 | .85 | .72 | R2.56 | R13.05 |
| February | .88 | .71 | .52 | 2.11 | 10.78 |
| March | .86 | .67 | .56 | 2.08 | 10.58 |
| April | .83 | .62 | .59 | 2.04 | 10.14 |
| May | .86 | .75 | .60 | 2.21 | 10.87 |
| June | .90 | .85 | .67 | 2.41 | 11.35 |
| July | .93 | .90 | .68 | 2.51 | 11.75 |
| August | R1.08 | R.97 | R.72 | R2.77 | R12.16 |
| September | 1.01 | .91 | .68 | 2.61 | 11.76 |
| October | 1.14 | 1.03 | .77 | 2.95 | 13.27 |
| November | 1.00 | .76 | .79 | 2.55 | 11.63 |
| December | 1.02 | .86 | .69 | 2.56 | 12.61 |
| **Total** | R11.50 | R9.88 | 7.98 | R29.37 | R139.93 |
| 1991 January | 1.10 | .80 | .56 | 2.45 | 11.84 |
| February | .76 | .83 | .58 | 2.16 | 10.83 |
| March | R1.12 | R.68 | R.57 | R2.37 | R11.72 |
| April | R1.00 | .59 | R.54 | R2.13 | R10.35 |
| May | R.94 | .67 | R.51 | R2.13 | R10.20 |
| June | R1.00 | .76 | .55 | R2.31 | R10.57 |
| July | R.95 | .72 | R.58 | R2.26 | R10.27 |
| August | .97 | .75 | .58 | 2.29 | 10.07 |
| **8-Month Total** | 7.84 | 5.80 | 4.46 | 18.10 | 85.85 |
| **1990 8-Month Total** | 7.33 | 6.31 | 5.06 | 18.70 | 90.67 |
| **1989 8-Month Total** | 6.65 | 5.72 | 5.26 | 17.62 | 82.87 |

R=Revised data.

Notes: • Includes exploratory and development wells; excludes service wells, stratigraphic tests, and core tests. • Geographic coverage is the 50 States and the District of Columbia. • Totals and averages may not equal sum of components due to subsequent revisions and independent rounding. • Due to the method of estimation, data shown on this page are frequently revised. See end of section.

Sources: Energy Information Administration computations, which are based on well reports submitted to the American Petroleum Institute by the Petroleum Information Corporation.

# Oil and Gas Resource Development Notes

Three well types are considered in the *Monthly Energy Review (MER)* drilling statisitics: "completed for oil," "completed for gas," and dry hole. Wells that productively encounter both crude oil and natural gas are categorized as "completed for oil." Both development wells and exploratory wells (new field wildcats, new pool tests, and extension tests) are included in the statistics. All other classes of wells drilled in connection with the search for producible hydrocarbons are excluded.

Prior to the March 1985 the *MER*, drilling statistics consisted of completion data for the above types and classes of wells as reported to the American Petroleum Institute (API) during a given month. Due to time lags between the date of well completion and the date of completion reporting to the API, as-reported well completions proved to be an inaccurate indicator of drilling activity. During 1982, for example, as-reported well completions rose while the number of actual completions fell. Consequently, the drilling statistics published since the March 1985 *MER* are Energy Information Administration-generated (EIA) estimates produced by statistically imputing well counts and footage based on the partial data available from the API.

Estimates for a given month are first published in the *MER* for that month. Revisions are made in the 6th, 12th, and 24th subsequent months, as newly reported data allow refinement of the estimates. Unscheduled revisions may also occur when the latest estimate differs by more that 15 percent during the first 5 months, more than 10 percent during the next 6 months, or more than 2 percent thereafter through 5 years. After 5 years, the reported API data are published in lieu of EIA-generated estimates. Additional information about the EIA estimation methodology may be found in "Estimating Well Completions," the feature article published in the March 1985 *MER*.

# Section 6. Coal

Coal production in August 1991 totaled 91 million short tons, 1 percent[6] lower than the 92 million short tons produced in August 1990.

Electric utility coal consumption in July 1991 totaled 72 million short tons, 1 percent higher than the consumption level in July 1990.

Electric utility coal stocks were 156 million short tons at the end of July 1991, compared to stocks of 153 million short tons at the end of July 1990.

Exports of coal in July 1991 totaled 10 million short tons, 10 percent more than exports in July 1990.

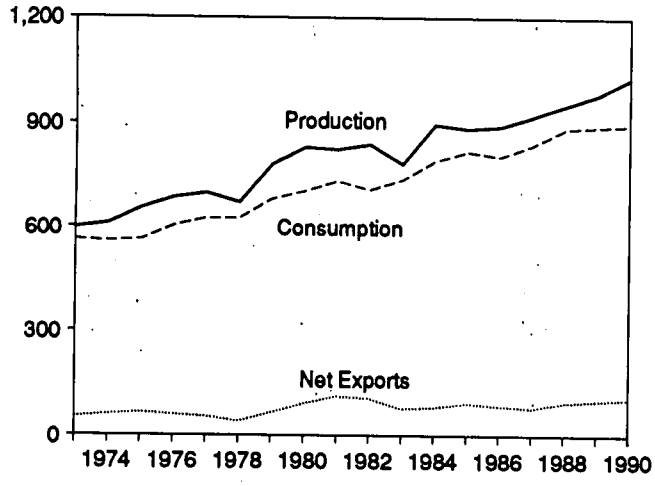
Coal imports for July 1991 totaled 348 thousand short tons, 149 thousand short tons higher than imports for July 1990.

[6]Calculated values are computed using unrounded data.

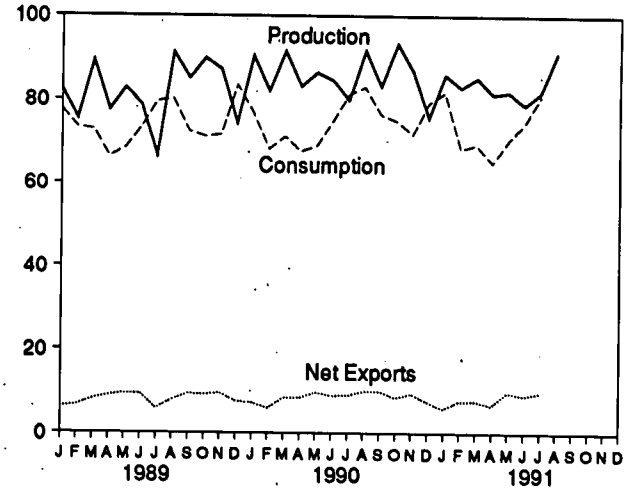
## Figure 6.1 Coal

(Million Short Tons)

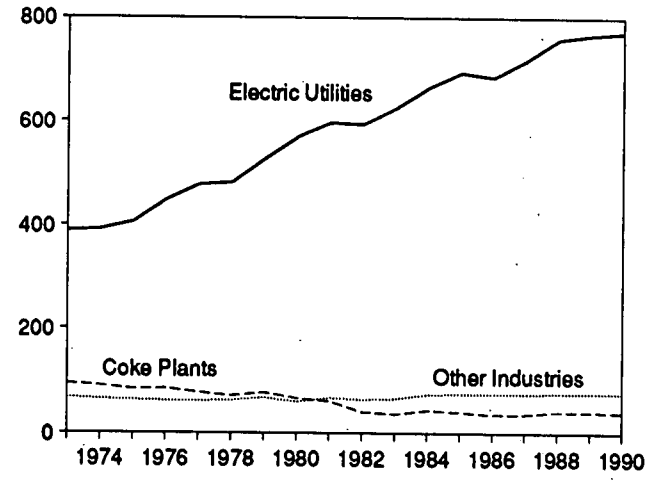
### Overview, 1973-1990



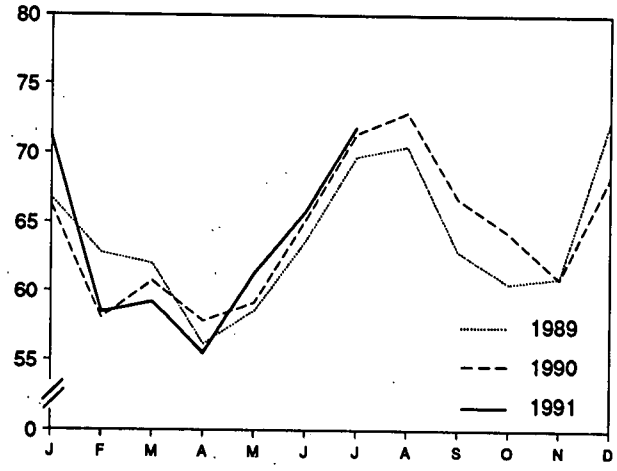

### Overview, Monthly



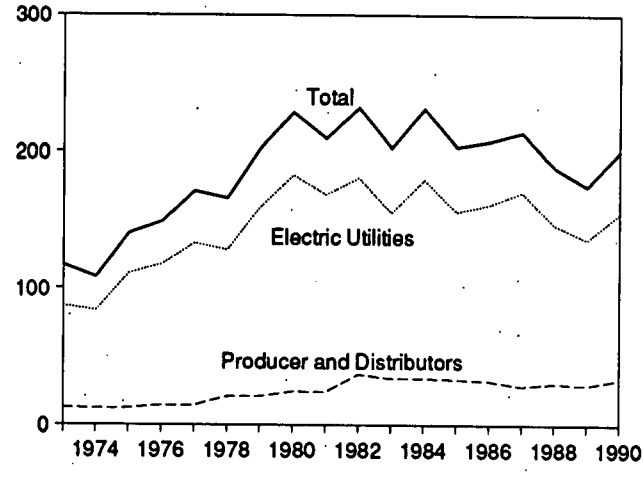

### Consumption by Sector, 1973-1990



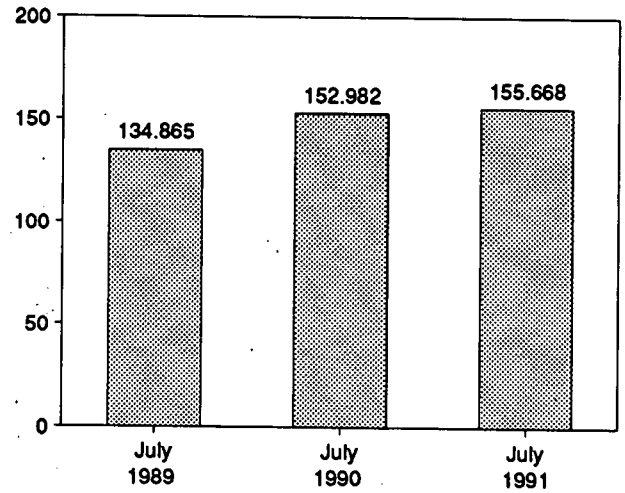

### Consumption by Electric Utilities, Monthly




### Stocks, End of Year, 1973-1990




### Stocks at Electric Utilities, End of Month




Note: Because vertical scales differ, graphs should not be compared.
Sources: Tables 6.1, 6.2, and 6.3.

# Table 6.1 Coal Overview

(Thousand Short Tons)

| | Production | Consumption | Imports[a] | Exports | Stocks[b] |
|---|---|---|---|---|---|
| **1973 Total** | **598,568** | **562,584** | **127** | **53,587** | **116,865** |
| **1974 Total** | **610,023** | **558,402** | **2,080** | **60,661** | **107,957** |
| **1975 Total** | **654,641** | **562,640** | **940** | **66,309** | **140,158** |
| **1976 Total** | **684,913** | **603,790** | **1,203** | **60,021** | **148,659** |
| **1977 Total** | **697,205** | **625,291** | **1,647** | **54,312** | **171,323** |
| **1978 Total** | **670,164** | **625,225** | **2,953** | **40,714** | **166,246** |
| **1979 Total** | **781,134** | **680,524** | **2,059** | **66,042** | **202,472** |
| **1980 Total** | **829,700** | **702,729** | **1,194** | **91,742** | **228,407** |
| **1981 Total** | **823,775** | **732,628** | **1,043** | **112,541** | **209,423** |
| **1982 Total** | **838,111** | **706,910** | **742** | **106,277** | **232,037** |
| **1983 Total** | **782,091** | **736,671** | **1,271** | **77,772** | **202,585** |
| **1984 Total** | **895,921** | **791,291** | **1,286** | **81,483** | **231,300** |
| **1985 Total** | **883,638** | **818,049** | **1,952** | **92,680** | **203,367** |
| **1986 Total** | **890,315** | **804,312** | **2,212** | **85,518** | **207,319** |
| **1987 Total** | **918,762** | **836,941** | **1,747** | **79,607** | **213,780** |
| **1988 Total** | **950,265** | **883,664** | **2,134** | **95,023** | **188,831** |
| 1989 January | 82,331 | 77,638 | 66 | 6,306 | 185,952 |
| February | 75,414 | 73,391 | 131 | 6,748 | 181,866 |
| March | 89,421 | 72,834 | 334 | 8,375 | 184,630 |
| April | 77,456 | 66,355 | 158 | 9,104 | 188,578 |
| May | 82,776 | 68,438 | 312 | 9,685 | 193,282 |
| June | 78,795 | 73,372 | 218 | 9,657 | 189,507 |
| July | 66,601 | 79,619 | 375 | 6,209 | 175,341 |
| August | 91,349 | 80,170 | 247 | 8,122 | 174,372 |
| September | 85,115 | 72,413 | 303 | 9,661 | 176,013 |
| October | 89,873 | 71,200 | 160 | 9,293 | 182,271 |
| November | 87,236 | 71,653 | 245 | 9,768 | 186,815 |
| December | 74,363 | 83,478 | 303 | 7,888 | 175,087 |
| **Total** | **980,729** | **890,559** | **2,851** | **100,815** | **175,087** |
| 1990 January | R90,561 | 76,890 | 175 | 7,447 | 178,857 |
| February | R82,021 | 68,252 | 268 | 6,243 | 185,776 |
| March | R91,602 | 71,171 | 292 | 8,693 | 195,112 |
| April | R83,167 | 67,690 | 182 | 8,590 | 202,460 |
| May | R86,519 | 69,007 | 144 | 9,827 | 208,968 |
| June | R84,592 | 74,908 | 348 | 9,316 | 208,871 |
| July | R79,798 | 81,260 | 200 | 9,194 | 199,995 |
| August | R91,842 | 82,951 | 120 | 10,065 | 196,323 |
| September | R83,120 | 76,469 | 194 | 10,238 | 194,398 |
| October | R93,424 | 74,982 | 284 | 8,756 | 200,602 |
| November | R86,763 | 71,729 | 224 | 9,621 | 205,332 |
| December | R75,666 | 79,247 | 268 | 7,813 | 200,626 |
| **Total** | **R1,029,076** | **894,556** | **2,699** | **105,804** | **200,626** |
| 1991 January | 86,058 | 81,734 | 263 | 6,214 | 196,651 |
| February | 82,835 | 68,309 | 429 | 8,127 | 202,570 |
| March | 85,271 | 69,321 | 246 | 7,977 | 209,852 |
| April | 81,311 | E64,959 | 198 | 6,917 | E206,062 |
| May | 81,816 | E70,396 | 248 | 10,018 | E208,743 |
| June | 78,764 | E74,407 | 284 | 9,278 | E204,831 |
| July | 81,770 | E80,872 | 348 | 10,099 | E204,322 |
| August | 91,237 | NA | NA | NA | NA |
| **8-Month Total** | **669,064** | **NA** | **NA** | **NA** | **NA** |
| **1990 8-Month Total** | **690,102** | **592,130** | **1,729** | **69,374** | **196,323** |
| **1989 8-Month Total** | **644,142** | **591,816** | **1,841** | **64,204** | **174,372** |

[a] Includes Puerto Rico.

[b] Stocks held by electric utilities, coke plants, general industry, and coal producers and distributors at end of period. Excludes stocks held at retail dealers for consumption by the residential and commercial sector.

R=Revised data. NA=Not available. E=Estimate.

Notes: • Geographic coverage is the 50 States and the District of Columbia. • Data through 1988 are final. Subsequent data are preliminary. • Annual and year-to-date totals are rounded sums of rounded data. Accordingly, they may not equal the sum of the months and may differ from values published elsewhere by the Energy Information Administration (EIA). • For methodology used to calculate production, consumption, and stocks, see Notes 1, 2, and 3 at end of section.

Sources: • **Production, 1973-September 1977**—U.S. Department of the Interior, Bureau of Mines, *Minerals Yearbook* and *Minerals Industry Surveys*. **October 1977 forward**—EIA, *Weekly Coal Production*. • **Consumption**—See Table 6.2. • **Imports and Exports**—U.S. Department of Commerce, Bureau of the Census, Monthly Reports IM-145 (Imports) and EM-522 (Exports). • **Stocks**—See Table 6.3.

# Table 6.2 Coal Consumption by End-Use Sector

(Thousand Short Tons)

| | Residential and Commercial | Industrial | | Electric Utilities | Total |
|---|---|---|---|---|---|
| | | Coke Plants | Other Industrial Including Transportation | | |
| **1973 Total** | **11,117** | **94,101** | **68,154** | **389,212** | **562,584** |
| **1974 Total** | **11,417** | **90,191** | **64,983** | **391,811** | **558,402** |
| **1975 Total** | **9,410** | **83,598** | **63,670** | **405,962** | **562,640** |
| **1976 Total** | **8,916** | **84,704** | **61,799** | **448,371** | **603,790** |
| **1977 Total** | **8,954** | **77,739** | **61,472** | **477,126** | **625,291** |
| **1978 Total** | **9,511** | **71,394** | **63,085** | **481,235** | **625,225** |
| **1979 Total** | **8,388** | **77,368** | **67,717** | **527,051** | **680,524** |
| **1980 Total** | **6,452** | **66,657** | **60,347** | **569,274** | **702,729** |
| **1981 Total** | **7,422** | **61,015** | **67,395** | **596,797** | **732,628** |
| **1982 Total** | **8,240** | **40,908** | **64,096** | **593,666** | **706,910** |
| **1983 Total** | **8,448** | **37,033** | **65,979** | **625,211** | **736,671** |
| **1984 Total** | **9,128** | **44,022** | **73,744** | **664,399** | **791,291** |
| **1985 Total** | **7,779** | **41,056** | **75,372** | **693,841** | **818,049** |
| **1986 Total** | **7,667** | **36,006** | **75,583** | **685,056** | **804,312** |
| **1987 Total** | **6,914** | **36,957** | **75,175** | **717,894** | **836,941** |
| **1988 Total** | **7,130** | **41,910** | **76,252** | **758,372** | **883,664** |
| **1989** January | 632 | 3,568 | 6,671 | 66,767 | 77,638 |
| February | 693 | 3,295 | 6,619 | 62,784 | 73,391 |
| March | 512 | 3,722 | 6,595 | 62,005 | 72,834 |
| April | 511 | 3,613 | 6,088 | 56,144 | 66,355 |
| May | 336 | 3,525 | 6,050 | 58,527 | 68,438 |
| June | 296 | 3,368 | 6,073 | 63,635 | 73,372 |
| July | 496 | 3,527 | 5,875 | 69,720 | 79,619 |
| August | 449 | 3,336 | 5,891 | 70,493 | 80,170 |
| September | 318 | 3,320 | 5,865 | 62,910 | 72,413 |
| October | 210 | 3,599 | 6,829 | 60,561 | 71,200 |
| November | 530 | 3,301 | 6,815 | 61,006 | 71,653 |
| December | 1,184 | 3,195 | 6,764 | 72,336 | 83,478 |
| **Total** | **6,167** | **41,369** | **76,134** | **766,888** | **890,559** |
| **1990** January | 713 | 3,354 | 6,533 | 66,290 | 76,890 |
| February | 656 | 3,025 | 6,576 | 57,996 | 68,252 |
| March | 551 | 3,369 | 6,504 | 60,748 | 71,171 |
| April | 532 | 3,357 | 6,025 | 57,776 | 67,690 |
| May | 360 | 3,501 | 6,007 | 59,140 | 69,007 |
| June | 373 | 3,331 | 6,037 | 65,167 | 74,908 |
| July | 535 | 3,275 | 6,075 | 71,376 | 81,260 |
| August | 498 | 3,397 | 6,113 | 72,942 | 82,951 |
| September | 409 | 3,276 | 6,056 | 66,727 | 76,469 |
| October | 413 | 3,450 | 6,853 | 64,264 | 74,982 |
| November | 624 | 3,351 | 6,838 | 60,916 | 71,729 |
| December | 1,059 | 3,139 | 6,713 | 68,335 | 79,247 |
| **Total** | **6,724** | **39,824** | **76,330** | **771,678** | **894,556** |
| **1991** January | 862 | 3,031 | 6,651 | 71,190 | 81,734 |
| February | 605 | 2,566 | 6,695 | 58,443 | 68,309 |
| March | 541 | 2,985 | 6,601 | 59,195 | 69,321 |
| April | E 541 | E 2,950 | E 5,986 | 55,483 | E 64,959 |
| May | E 302 | E 3,003 | E 5,793 | 61,298 | E 70,396 |
| June | E 230 | E 2,795 | E 5,605 | 65,777 | E 74,407 |
| July | E 467 | E 2,718 | E 5,828 | 71,862 | E 80,872 |
| **7-Month Total** | **E 3,548** | **E 20,047** | **E 43,156** | **443,248** | **E 509,999** |
| **1990 7-Month Total** | **3,720** | **23,210** | **43,756** | **438,493** | **509,178** |
| **1989 7-Month Total** | **3,476** | **24,618** | **43,971** | **439,582** | **511,646** |

E=Estimate.

Notes: • For sector-specific reporting and estimating information, see Note 2 at end of section. • Geographic coverage is the 50 States and the District of Columbia. • Data through 1988 are final. Subsequent data are preliminary. • Annual and year-to-date totals are rounded sums of rounded data. Accordingly, they may not equal the sum of the months and may differ from values published elsewhere by the Energy Information Administration (EIA).

Sources: • **Residential and Commercial, 1973-1976**—U.S. Department of the Interior (DOI), Bureau of Mines (BOM), *Minerals Yearbook*. **January-September 1977**—DOI, BOM, Form 6-1400, "Monthly Coal Report, Retail Dealers-Upper Lake Docks." **October 1977-1979**—EIA, Form EIA-2, "Monthly Coal Report, Retail Dealers-Upper Lake Docks." **1980 forward**—EIA, Form EIA-6, "Coal Distribution Report." • **Coke Plants, 1973-September 1977**—DOI, BOM, *Minerals Yearbook* and *Minerals Industry Surveys*. **October 1977-1980**—EIA, Form EIA-5/5A, "Coke and Coal Chemicals-Monthly/Annual." **1981-1984**—EIA, Form EIA-5/5A, "Coke Plant Report-Quarterly/Annual Supplement." **1985 forward**—EIA Form EIA-5, "Coke Plant Report," quarterly. • **Other Industrial, 1973-September 1977**—DOI, BOM, *Minerals Yearbook* and *Minerals Industry Surveys*. **October 1977-1979**—EIA, Form EIA-3, "Monthly Coal Consumption Report-Manufacturing Plants." **1980 forward**—EIA, Form EIA-3, "Quarterly Coal Consumption Report-Manufacturing Plants," and Form EIA-6, "Coal Distribution Report." • **Electric Utilities, 1973-September 1977**—DOI, BOM, *Minerals Yearbook* and *Minerals Industry Surveys*. **October 1977 forward**—EIA, Form EIA-759 (formerly Form FPC-4), "Monthly Power Plant Report."

# Table 6.3 Coal Stocks, End of Period

(Thousand Short Tons)

| | Consumer | | | | Producers and Distributors | Total[a] |
|---|---|---|---|---|---|---|
| | Coke Plants | Other Industrial | Electric Utilities | Total[a] | | |
| **1973 Year** | **6,998** | **10,370** | **86,967** | **104,335** | **12,530** | **116,865** |
| **1974 Year** | **6,209** | **6,605** | **83,509** | **96,323** | **11,634** | **107,957** |
| **1975 Year** | **8,797** | **8,529** | **110,724** | **128,050** | **12,108** | **140,158** |
| **1976 Year** | **9,902** | **7,100** | **117,436** | **134,438** | **14,221** | **148,659** |
| **1977 Year** | **12,816** | **11,063** | **133,219** | **157,098** | **14,225** | **171,323** |
| **1978 Year** | **8,278** | **9,048** | **128,225** | **145,551** | **20,695** | **166,246** |
| **1979 Year** | **10,155** | **11,777** | **159,714** | **181,646** | **20,826** | **202,472** |
| **1980 Year** | **9,067** | **11,951** | **183,010** | **204,028** | **24,379** | **228,407** |
| **1981 Year** | **6,475** | **9,906** | **168,893** | **185,274** | **24,149** | **209,423** |
| **1982 Year** | **4,642** | **9,479** | **181,132** | **195,253** | **36,784** | **232,037** |
| **1983 Year** | **4,346** | **8,710** | **155,598** | **168,654** | **33,931** | **202,585** |
| **1984 Year** | **6,166** | **11,317** | **179,727** | **197,210** | **34,090** | **231,300** |
| **1985 Year** | **3,420** | **10,438** | **156,376** | **170,234** | **33,133** | **203,367** |
| **1986 Year** | **2,992** | **10,429** | **161,806** | **175,226** | **32,093** | **207,319** |
| **1987 Year** | **3,884** | **10,777** | **170,797** | **185,459** | **28,321** | **213,780** |
| **1988 Year** | **3,137** | **8,768** | **146,507** | **158,413** | **30,418** | **188,831** |
| **1989** January | 3,264 | 8,073 | 142,538 | 153,876 | 32,076 | 185,952 |
| February | 3,391 | 7,378 | 137,363 | 148,132 | 33,734 | 181,866 |
| March | 3,518 | 6,683 | 139,036 | 149,238 | 35,392 | 184,630 |
| April | 3,466 | 6,679 | 144,674 | 154,819 | 33,759 | 188,578 |
| May | 3,413 | 6,675 | 151,067 | 161,155 | 32,127 | 193,282 |
| June | 3,361 | 6,671 | 148,981 | 159,013 | 30,494 | 189,507 |
| July | 3,476 | 7,054 | 134,865 | 145,395 | 29,946 | 175,341 |
| August | 3,591 | 7,436 | 133,948 | 144,975 | 29,397 | 174,372 |
| September | 3,707 | 7,818 | 135,640 | 147,165 | 28,848 | 176,013 |
| October | 3,426 | 7,666 | 142,280 | 153,372 | 28,899 | 182,271 |
| November | 3,145 | 7,515 | 147,207 | 157,866 | 28,949 | 186,815 |
| December | **2,864** | **7,363** | **135,860** | **146,087** | **29,000** | **175,087** |
| **1990** January | 3,123 | 7,237 | 137,465 | 147,824 | 31,033 | 178,857 |
| February | 3,382 | 7,110 | 142,218 | 152,711 | 33,066 | 185,776 |
| March | 3,641 | 6,984 | 149,388 | 160,013 | 35,099 | 195,112 |
| April | 3,674 | 7,127 | 155,962 | 166,763 | 35,698 | 202,460 |
| May | 3,706 | 7,270 | 161,695 | 172,672 | 36,296 | 208,968 |
| June | 3,739 | 7,413 | 160,823 | 171,976 | 36,895 | 208,871 |
| July | 3,387 | 7,810 | 152,982 | 164,179 | 35,816 | 199,995 |
| August | 3,255 | 8,206 | 150,123 | 161,585 | 34,738 | 196,323 |
| September | 3,124 | 8,603 | 149,013 | 160,739 | 33,659 | 194,398 |
| October | 3,192 | 8,640 | 155,191 | 167,023 | 33,579 | 200,602 |
| November | 3,260 | 8,678 | 159,895 | 171,834 | 33,499 | 205,332 |
| December | **3,329** | **8,716** | **155,163** | **167,208** | **33,418** | **200,626** |
| **1991** January | 3,262 | 8,226 | 148,736 | 160,224 | 36,428 | 196,651 |
| February | 3,196 | 7,735 | 152,202 | 163,133 | 39,437 | 202,570 |
| March | 3,130 | 7,245 | 157,031 | 167,406 | 42,446 | 209,852 |
| April | E 4,114 | E 8,144 | 162,804 | E 175,062 | E 31,000 | E 206,062 |
| May | E 4,030 | E 8,230 | 165,483 | E 177,743 | E 31,000 | E 208,743 |
| June | E 3,999 | E 8,422 | 161,410 | E 173,831 | E 31,000 | E 204,831 |
| July | E 3,525 | E 8,129 | 155,668 | E 167,322 | E 37,000 | E 204,322 |

[a] Excludes stocks held at retail dealers for consumption by the residential and commercial sector.

E=Estimate.

Notes: • For sector-specific reporting and estimating information, see Note 3 at end of section. •Geographic coverage is the 50 States and the District of Columbia. • Data through 1988 are final. Subsequent data are preliminary. • Totals may not equal sum of components due to independent rounding.

Sources: • **Coke Plants, 1973-September 1977**—U.S. Department of the Interior (DOI), Bureau of Mines (BOM), *Minerals Yearbook* and *Minerals Industry Surveys*. **October 1977-1980**—Energy Information Administration (EIA), Form EIA-5/5A, "Coke and Coal Chemicals-Monthly/Annual." **1981-1984**—EIA, Form EIA-5/5A, "Coke Plant Report-Quarterly/Annual Supplement." **1985 forward**—EIA Form EIA-5, "Coke Plant Report," quarterly. • **Other Industrial, 1973-September 1977**—DOI, BOM, *Minerals Yearbook* and *Minerals Industry Surveys*. **October 1977-1979**—EIA, Form EIA-3, "Monthly Coal Consumption Report-Manufacturing Plants." **1980 forward**—EIA, Form EIA-3, "Quarterly Coal Consumption Report-Manufacturing Plants," and Form EIA-6, "Coal Distribution Report." • **Electric Utilities, 1973-September 1977**—DOI, BOM, *Minerals Yearbook* and *Minerals Industry Surveys*. **October 1977 forward**—EIA, Form EIA-759 (formerly Form FPC-4), "Monthly Power Plant Report." • **Producers and Distributors**—EIA, Form EIA-6, "Coal Distribution Report."

# Coal Notes

**1. Production:** Preliminary monthly estimates of national coal production are the sum of weekly estimates developed by the Energy Information Administration (EIA) and published in the *Weekly Coal Production* report. When a week extends into a new month, production is allocated on a daily basis and added to the appropriate month. Weekly estimates are based on Association of American Railroads data showing the number of railcars loaded with coal during the week by Class I and certain other railroads. This number is converted into tons of coal by EIA by using the average number of tons of coal per railcar loaded reported in the most recent "Quarterly Freight Commodity Statistics" from the Interstate Commerce Commission. If an average coal tonnage per railcar loaded is not available for a specific railroad, the national average is used. To derive the estimate of total weekly production, the total rail tonnage for the week is divided by the ratio of quarterly production shipped by rail and total quarterly production. Data for the corresponding quarter of previous years are used to derive this ratio. This method insures that the seasonal variations are preserved in the production estimates.

When preliminary quarterly data become available, the monthly and weekly estimates are adjusted to conform to the quarterly figure. The adjustment procedure uses State-level production data and is explained in EIA's *Quarterly Coal Report*. Initial estimates of annual production published in January of the following year are based on preliminary production data covering the first 9 months (three quarters) and weekly/monthly estimates for the fourth quarter. The fourth quarter estimates may or may not be revised when preliminary data become available in March of the following year, depending on the magnitude of the difference between the estimates and the preliminary data. In any event, all quarterly, monthly, and weekly production figures are adjusted to conform to the final annual production data published in the *Monthly Energy Review* in the fall of the following year.

**2. Consumption:** Coal consumption data are reported by major end-use sector. Estimated data for the most recent months (designated by an "E") are derived from forecasted values shown in the EIA *Short-Term Energy Outlook* (DOE/EIA-0202) table titled "Supply and Disposition of Coal: Mid World Oil Price Case." The monthly estimates are one-third of the quarterly values shown in the then current issue of the publication, regularly released in February, May, August, and November. The estimates are revised quarterly as collected data become available from the data sources. Sector-specific information follows.

- Residential and Commercial—Prior to 1980, monthly consumption estimates for the residential and commercial sector were derived by using reported data to modify baseline figures developed by the Bureau of Mines. From 1980-1987, monthly estimates were derived by proportioning reported quarterly data by using the ratios of monthly-to-quarterly consumption data in 1979, the last year in which monthly data were reported on Form EIA-2. During 1981 and 1982, the estimates were also modified to reflect air temperature degree-days. Quarterly consumption data were directly from reported data and were defined as distribution to the residential and commercial sector as reported by coal producers and distributors on Form EIA-6. Beginning in January 1988, monthly residential and commercial consumption estimates are derived from reported quarterly data by using monthly national average population weighted heating/cooling degree-days obtained from the National Oceanic and Atmospheric Administration. The monthly ratios are the monthly national sum of heating and cooling degree-days as a proportion of the quarterly national sum. Quarterly consumption data are directly from reported data.

- Coke Plants—Prior to 1980, monthly coke plant consumption data were directly from reported data. From 1980-1987, coke plant consumption estimates were derived by proportioning reported quarterly data by using the ratios of monthly-to-quarterly consumption data in 1979, the last year in which monthly data were reported. Beginning in January 1988, monthly coke plant consumption estimates are derived from the reported quarterly data by using monthly ratios of raw steel production data from the American Iron and Steel Institute. The ratios are the monthly raw steel production from open hearth and basic oxygen process furnaces as a proportion of the quarterly production from those kinds of furnaces.

- Other Industrial—Prior to 1978, monthly consumption data for the other industrial sector (i.e., all industrial users minus coke plants) were derived by using reported data to modify baseline consumption figures from the most recent Bureau of the Census Annual Survey of Manufactures or Census of Manufactures. For 1978 and 1979, monthly estimates were derived from data reported on Forms EIA-3 and EIA-6. From 1980-1987, monthly figures were estimated by proportioning quarterly data by using the ratios of monthly-to-quarterly consumption data in 1979, the last year in which monthly data were reported on Form EIA-3. Quarterly consumption data were derived by adding beginning stocks at manufacturing plants to current receipts and subtracting ending stocks at manufacturing plants. In this calculation, current receipts were the greater of either reported receipts from manufacturing plants (Form EIA-3) or reported shipments to the other industrial sector (Form EIA-6), thereby ensuring that agriculture, forestry, fishing, mining, and construction consumption were included where appropriate. Starting in January

1988, monthly consumption for the other industrial sector is estimated from reported quarterly data by using ratios derived from industrial production indices published by the Board of Governors of the Federal Reserve System. Indices for six major industry groups are used as the basis for calculating the ratios: foods (SIC 20); paper and products (SIC 26); chemicals and products (SIC 28); petroleum products (SIC 29); clay, glass, and stone products (SIC 32); and primary metals (SIC 33). The monthly ratios are computed as the monthly sum of the weighted indices as a proportion of the quarterly sum of the weighted indices by using the 1977 proportion as the weights.

- Electric Utilities—Monthly consumption data for electric utility plants are directly from reported data.

**3. Stocks:** Coal stocks data are reported by major end-use sector. Estimated data for the most recent months (designated by an "E") are derived from forecasted values shown in the EIA *Short-Term Energy Outlook* (DOE/EIA-0202) table titled "Supply and Disposition of Coal: Mid World Oil Price Case." The monthly estimates are one-third of the quarterly values shown in the then current issue of the publication, regularly released in February, May, August, and November. The estimates are revised quarterly as collected data become available from the data sources. Sector-specific information follows.

- Coke Plants—Prior to 1980, monthly stocks at coke plants were directly from reported data. From 1980 forward, coke plant stocks are estimated by using one-third of the current quarterly change to indicate the monthly change in stocks. Quarterly stocks are directly from data reported on Form EIA-5.

- Other Industrial—Prior to 1978, stocks for the other industrial sector were derived by using reported data to modify baseline figures from a one-time Bureau of Mines survey of consumers. For 1978-1982, monthly estimates were derived by judgmentally proportioning reported quarterly data based on representative seasonal patterns of supply and demand. From 1983 forward, other industrial coal stocks are estimated as indicated above for coke plants. Quarterly stocks are directly from data reported on Form EIA-3 and therefore include only manufacturing industries; data for agriculture, forestry, fishing, mining, and construction stocks are not available.

- Electric Utilities—Monthly stocks data at electric utility plants are directly from reported data.

- Producers and Distributors—Quarterly stocks at producers and distributors are directly from reported data. Monthly data are estimated by using one-third of the current quarterly change to indicate the monthly change in stocks.

**4. Imports and Exports:** All coal import and export figures are directly from data reported monthly by the Bureau of the Census.

**5. Additional Information:** More information concerning coal production, consumption, and stocks data and estimation procedures may be obtained in EIA's *Quarterly Coal Report.*

# Section 7. Electricity

During July 1991, electric utilities generated 271 billion kilowatthours of electricity, 2 percent[7] above the July 1990 generation level. Coal-fired generation totaled 144 billion kilowatthours, slightly lower than the July 1990 level. Nuclear generation totaled 61 billion kilowatthours, 13 percent above the level 1 year earlier. Natural gas-fired generation was 31 billion kilowatthours, slightly higher than the July 1990 level. Hydroelectric generation totaled 24 billion kilowatthours, 3 percent above the July 1990 level. Petroleum-fired generation totaled 11 billion kilowatthours, 14 percent below the level 1 year earlier.

Sales of electricity to all ultimate consumers in the United States in July 1991 were 257 billion kilowatthours, 2 percent higher than the July 1990 level. Sales to residential consumers during July 1991 were 95 billion kilowatthours, 4 percent above the level of sales during the previous July. Sales to industrial consumers during July 1991 were 81 billion kilowatthours, 1 percent higher than the July 1990 level. Commercial sales were 72 billion kilowatthours, 1 percent above the amount sold to commercial consumers 1 year earlier. In July 1991, other sales totaled 9 billion kilowatthours, 2 percent above the July 1990 level.

Electric utility consumption of petroleum (excluding petroleum coke) during July 1991 was 19 million barrels, 14 percent below the July 1990 level. Coal consumption during July 1991 was 72 million short tons, 1 percent higher than consumption in July 1990. During July 1991 electric utilities consumed 330 billion cubic feet of natural gas, 1 percent above the July 1990 consumption level.

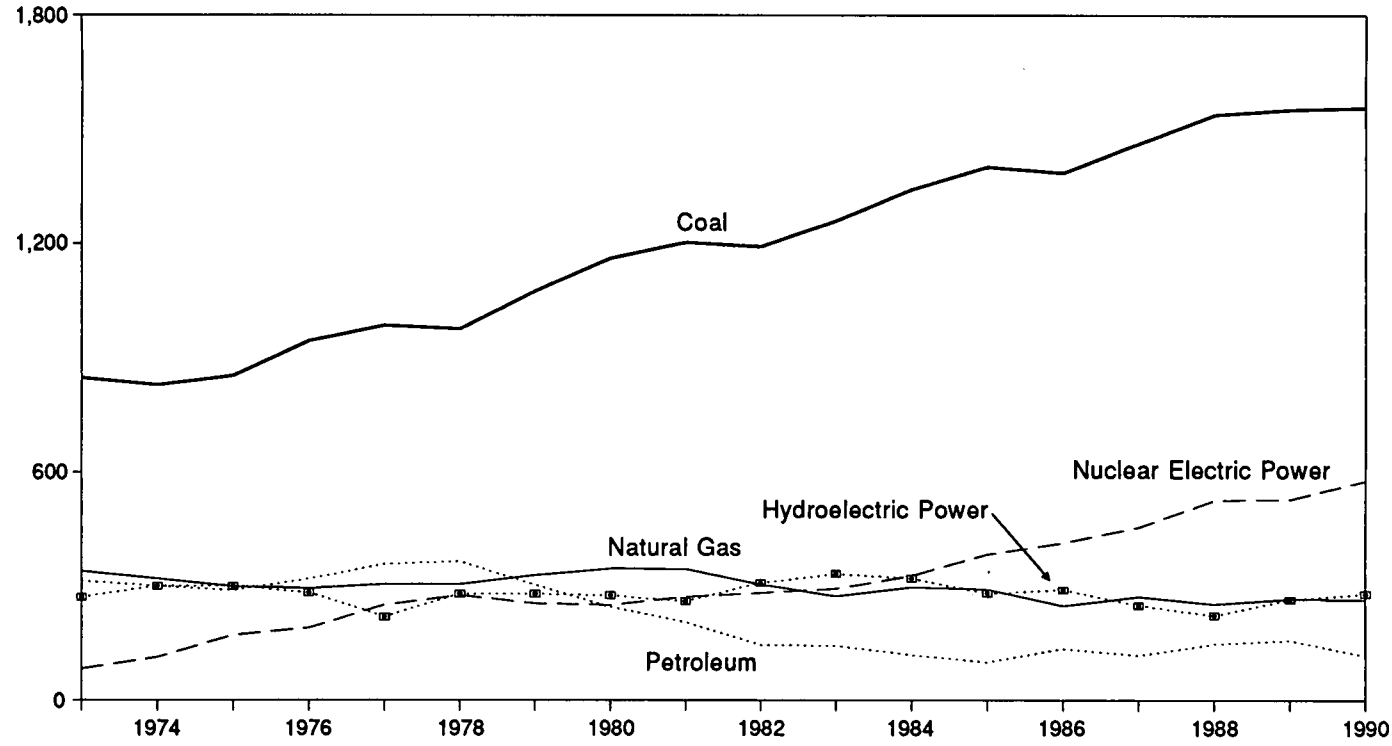
On July 31, 1991, electric utility stocks of all types of coal totaled 156 million short tons, 2 percent higher than the level on July 31, 1990. Stocks of petroleum (excluding petroleum coke) on July 31, 1991, totaled 74 million barrels, 3 percent above the level on July 31, 1990.

[7]Percentage changes are based on numbers shown in the following tables.

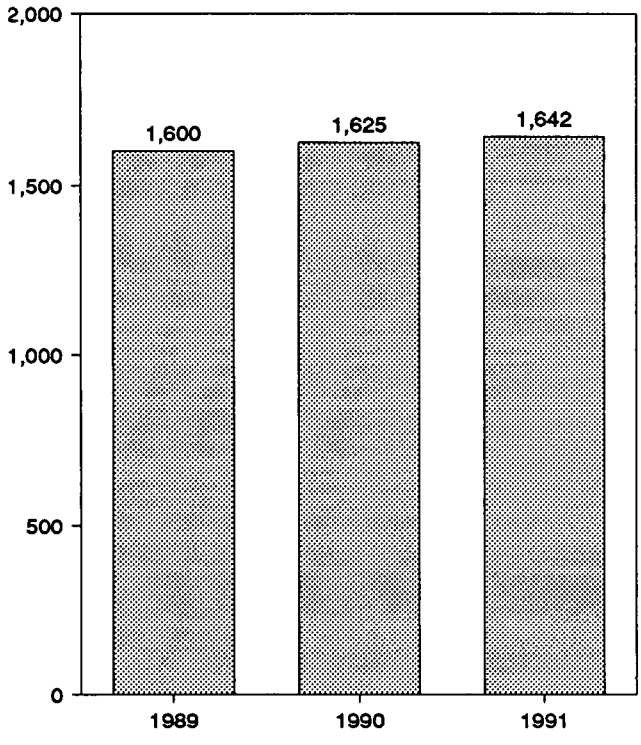
## Figure 7.1 Electric Utility Net Generation of Electricity

(Billion Kilowatthours)

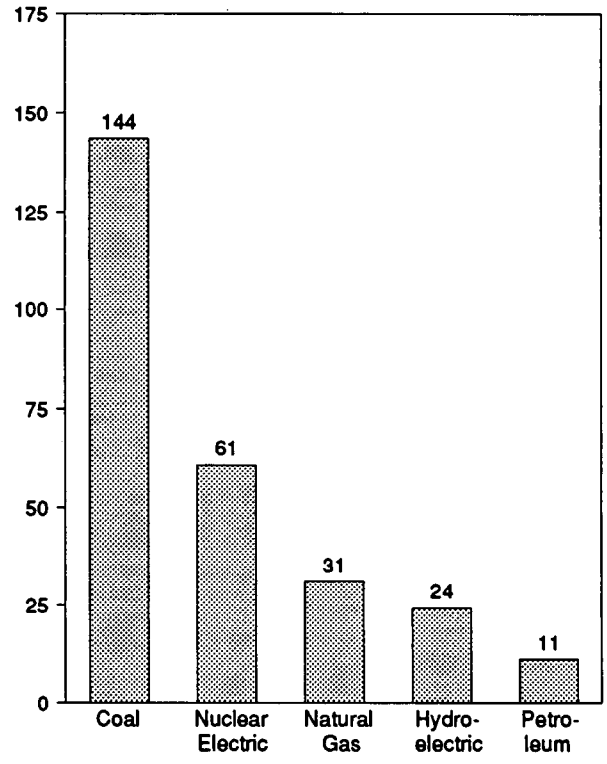
### Net Generation by Source, 1973-1990




### Net Generation, January-July




### Net Generation by Source, July 1991




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 7.1.

# Table 7.1 Electric Utility Net Generation of Electricity

(Million Kilowatthours)

| | Coal | Natural Gas[a] | Petroleum[b] | Nuclear Electric Power | Hydro-Electric Power | Other[c] | Total |
|---|---|---|---|---|---|---|---|
| **1973 Total** | **847,651** | **340,858** | **314,343** | **83,479** | **272,083** | **2,294** | **1,860,710** |
| **1974 Total** | **828,433** | **320,065** | **300,931** | **113,976** | **301,032** | **2,703** | **1,867,140** |
| **1975 Total** | **852,786** | **299,778** | **289,095** | **172,505** | **300,047** | **3,437** | **1,917,649** |
| **1976 Total** | **944,391** | **294,624** | **319,988** | **191,104** | **283,707** | **3,883** | **2,037,696** |
| **1977 Total** | **985,219** | **305,505** | **358,179** | **250,883** | **220,475** | **4,063** | **2,124,323** |
| **1978 Total** | **975,742** | **305,391** | **365,060** | **276,403** | **280,419** | **3,315** | **2,206,331** |
| **1979 Total** | **1,075,037** | **329,485** | **303,525** | **255,155** | **279,783** | **4,387** | **2,247,372** |
| **1980 Total** | **1,161,562** | **346,240** | **245,994** | **251,116** | **276,021** | **5,506** | **2,286,439** |
| **1981 Total** | **1,203,203** | **345,777** | **206,421** | **272,674** | **260,684** | **6,054** | **2,294,812** |
| **1982 Total** | **1,192,004** | **305,260** | **146,797** | **282,773** | **309,213** | **5,164** | **2,241,211** |
| **1983 Total** | **1,259,424** | **274,098** | **144,499** | **293,677** | **332,130** | **6,456** | **2,310,285** |
| **1984 Total** | **1,341,681** | **297,394** | **119,808** | **327,634** | **321,150** | **8,638** | **2,416,304** |
| **1985 Total** | **1,402,128** | **291,946** | **100,202** | **383,691** | **281,149** | **10,724** | **2,469,841** |
| **1986 Total** | **1,385,831** | **248,508** | **136,585** | **414,038** | **290,844** | **11,503** | **2,487,310** |
| **1987 Total** | **1,463,781** | **272,621** | **118,493** | **455,270** | **249,695** | **12,267** | **2,572,127** |
| **1988 Total** | **1,540,653** | **252,801** | **148,900** | **526,973** | **222,940** | **11,984** | **2,704,250** |
| **1989** January | 135,181 | 14,014 | 15,332 | 46,328 | 20,930 | 961 | 232,747 |
| February | 127,187 | 16,672 | 17,748 | 38,725 | 18,620 | 874 | 219,826 |
| March | 126,725 | 20,072 | 16,667 | 39,636 | 22,642 | 1,000 | 226,742 |
| April | 115,451 | 22,571 | 11,561 | 33,495 | 24,077 | 886 | 208,042 |
| May | 119,108 | 23,747 | 9,939 | 38,339 | 28,049 | 942 | 220,124 |
| June | 128,615 | 24,680 | 12,591 | 42,976 | 25,882 | 945 | 235,689 |
| July | 138,638 | 30,351 | 12,081 | 52,331 | 22,671 | 977 | 257,050 |
| August | 141,901 | 29,709 | 10,983 | 54,948 | 20,187 | 959 | 258,687 |
| September | 126,898 | 25,515 | 10,072 | 44,837 | 18,919 | 909 | 227,150 |
| October | 122,393 | 24,664 | 8,263 | 43,558 | 20,076 | 956 | 219,910 |
| November | 124,338 | 18,107 | 11,343 | 43,399 | 21,186 | 927 | 219,300 |
| December | 147,227 | 16,496 | 21,737 | 50,784 | 21,823 | 972 | 259,038 |
| **Total** | **1,553,661** | **266,598** | **158,318** | **529,355** | **265,063** | **11,309** | **2,784,304** |
| **1990** January | 132,672 | 13,687 | 11,515 | 55,119 | 23,412 | 933 | 237,339 |
| February | 115,898 | 12,450 | 9,385 | 49,963 | 24,151 | 861 | 212,708 |
| March | 122,958 | 17,647 | 10,172 | 46,087 | 28,042 | 948 | 225,854 |
| April | 117,278 | 18,991 | 10,141 | 38,516 | 25,387 | 775 | 211,088 |
| May | 119,785 | 22,867 | 9,442 | 42,945 | 27,001 | 868 | 222,908 |
| June | 132,461 | 28,285 | 13,353 | 46,332 | 27,621 | 883 | 248,935 |
| July | 144,225 | 30,969 | 12,824 | 53,645 | 23,658 | 907 | 266,228 |
| August | 147,135 | 32,603 | 11,020 | 55,758 | 21,048 | 919 | 268,483 |
| September | 135,345 | 28,213 | 7,981 | 48,485 | 16,971 | 875 | 237,869 |
| October | 130,282 | 24,381 | 7,225 | 43,395 | 18,605 | 905 | 224,794 |
| November | 123,841 | 17,647 | 6,221 | 45,034 | 19,993 | 860 | 213,596 |
| December | 136,576 | 16,326 | 7,902 | 51,582 | 23,952 | 919 | 237,257 |
| **Total** | **1,558,457** | **264,067** | **117,182** | **576,862** | **279,839** | **10,651** | **2,807,058** |
| **1991** January | 141,677 | 16,165 | 9,206 | 54,369 | 25,671 | 897 | 247,984 |
| February | 117,536 | 13,731 | 8,685 | 47,863 | 21,918 | 764 | 210,497 |
| March | 118,066 | 18,432 | 8,815 | 49,121 | 25,820 | 863 | 221,117 |
| April | 112,177 | 20,569 | 8,032 | 41,662 | 25,687 | 809 | 208,936 |
| May | 123,664 | 23,309 | 10,999 | 46,755 | 28,457 | 808 | 233,991 |
| June | 131,681 | 24,380 | 11,215 | 54,208 | 25,832 | 848 | 248,165 |
| July | 143,586 | 31,089 | 10,993 | 60,735 | 24,250 | 839 | 271,492 |
| **7-Month Total** | **888,386** | **147,676** | **67,945** | **354,713** | **177,634** | **5,828** | **1,642,182** |
| **1990 7-Month Total** | **885,278** | **144,897** | **76,833** | **332,607** | **179,270** | **6,174** | **1,625,060** |
| **1989 7-Month Total** | **890,905** | **152,108** | **95,920** | **291,830** | **162,872** | **6,585** | **1,600,220** |

[a] Includes supplemental gaseous fuel.
[b] Includes fuel oil Nos. 2, 4, 5, and 6, crude oil, kerosene, and petroleum coke.
[c] Other is electricity produced from geothermal, wood, waste, wind, photovoltaic, and solar thermal energy sources connected to electric utility distribution systems.

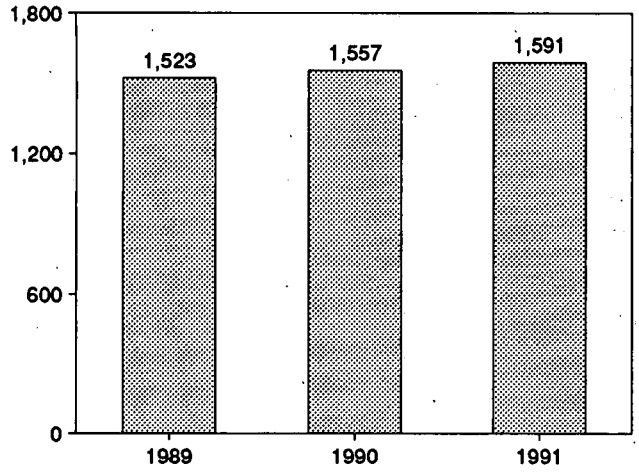
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

Sources: • 1973-September 1977: Federal Power Commission, Form FPC-4, "Monthly Power Plant Report." • October 1977-1979: Federal Energy Regulatory Commission, Form FPC-4, "Monthly Power Plant Report." • 1980 forward: Energy Information Administration, *Electric Power Monthly*, October 1991, Table 4.

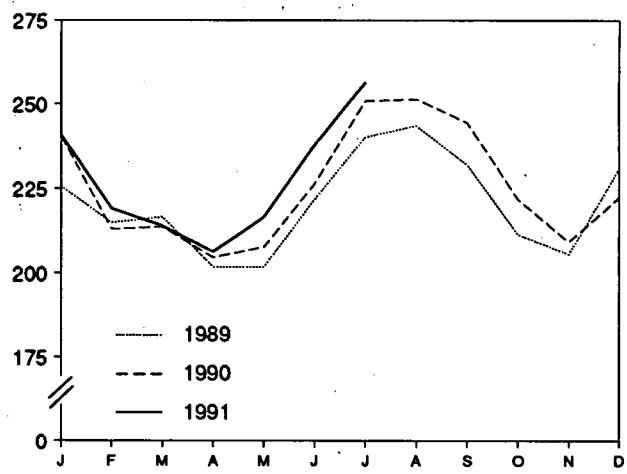
## Figure 7.2 Electricity Sales

(Billion Kilowatthours)

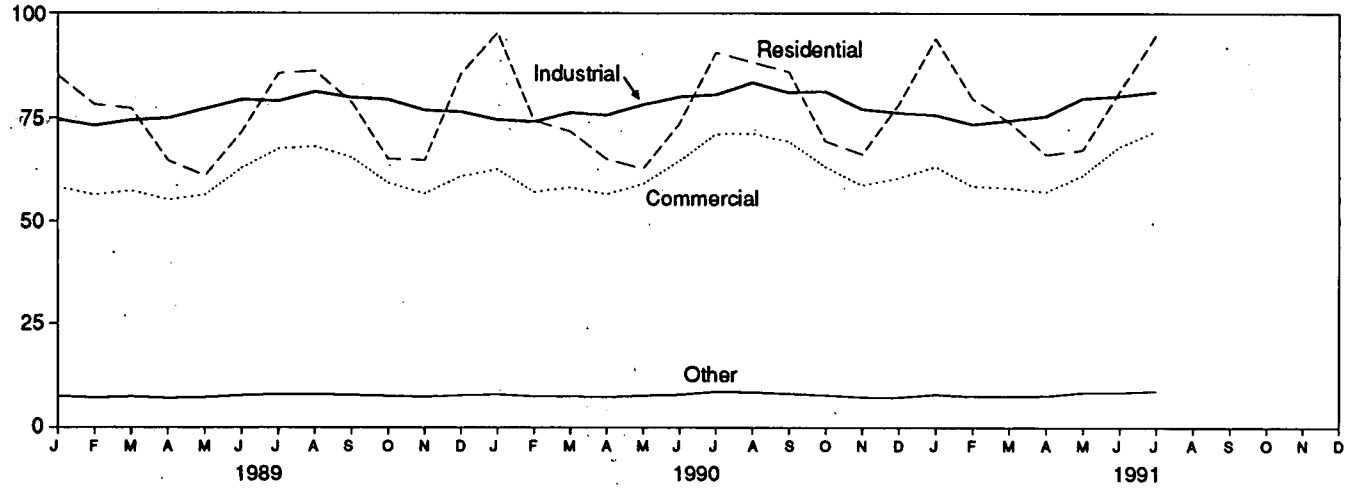
### Total Sales, January-July



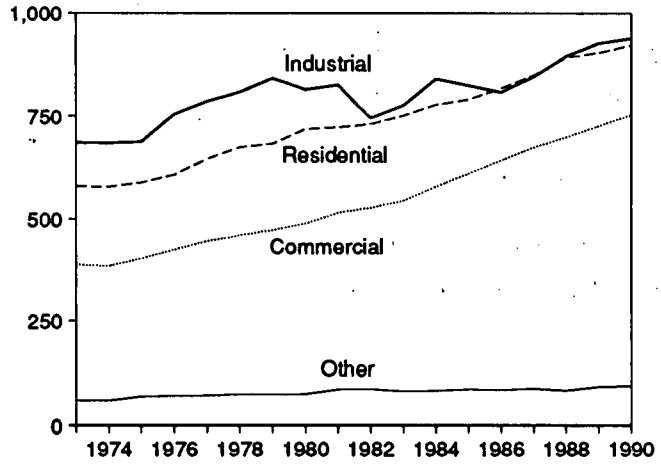

### Total Sales, Monthly



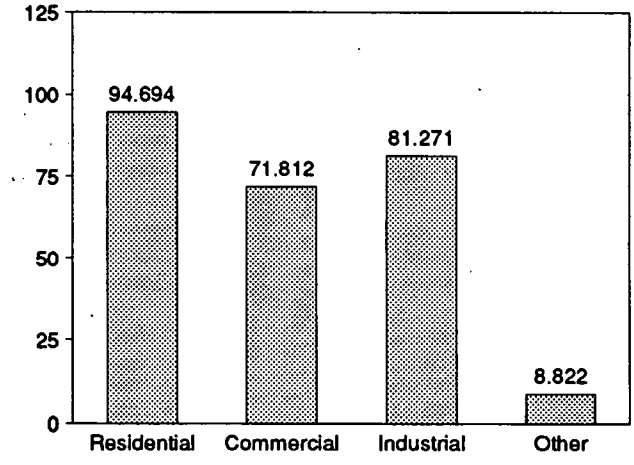

### Sales by Sector, Monthly




### Sales by Sector, 1973-1990




### Sales by Sector, July 1991




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 7.2.

# Table 7.2 Electricity Sales by End-Use Sector

(Million Kilowatthours)

| | Residential | | Commercial | | Industrial | | Other[a] | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Monthly Series[b] | Annual Series | Monthly Series[b] | Annual Series | Monthly Series[b] | Annual Series | Monthly Series[b] | Annual Series | Monthly Series[b] | Annual Series |
| **1973 Total** | **579,231** | **NA** | **388,266** | **NA** | **686,085** | **NA** | **59,326** | **NA** | **1,712,909** | **NA** |
| **1974 Total** | **578,184** | **NA** | **384,826** | **NA** | **684,875** | **NA** | **58,039** | **NA** | **1,705,924** | **NA** |
| **1975 Total** | **588,140** | **NA** | **403,049** | **NA** | **687,680** | **NA** | **68,222** | **NA** | **1,747,091** | **NA** |
| **1976 Total** | **606,452** | **NA** | **425,094** | **NA** | **754,069** | **NA** | **69,631** | **NA** | **1,855,246** | **NA** |
| **1977 Total** | **645,239** | **NA** | **446,514** | **NA** | **786,037** | **NA** | **70,571** | **NA** | **1,948,361** | **NA** |
| **1978 Total** | **674,466** | **NA** | **461,163** | **NA** | **809,078** | **NA** | **73,215** | **NA** | **2,017,922** | **NA** |
| **1979 Total** | **682,819** | **NA** | **473,307** | **NA** | **841,903** | **NA** | **73,070** | **NA** | **2,071,099** | **NA** |
| **1980 Total** | **717,495** | **NA** | **488,155** | **NA** | **815,067** | **NA** | **73,732** | **NA** | **2,094,449** | **NA** |
| **1981 Total** | **722,265** | **NA** | **514,338** | **NA** | **825,743** | **NA** | **84,756** | **NA** | **2,147,103** | **NA** |
| **1982 Total** | **729,520** | **NA** | **526,397** | **NA** | **744,949** | **NA** | **85,575** | **NA** | **2,086,441** | **NA** |
| **1983 Total** | **750,948** | **NA** | **543,788** | **NA** | **775,999** | **NA** | **80,219** | **NA** | **2,150,955** | **NA** |
| **1984 Total** | **777,654** | **780,092** | **578,281** | **582,621** | **840,588** | **837,836** | **81,849** | **85,248** | **2,278,372** | **2,285,796** |
| **1985 Total** | **790,977** | **793,934** | **608,968** | **605,989** | **824,523** | **836,772** | **85,075** | **87,279** | **2,309,543** | **2,323,974** |
| **1986 Total** | **817,663** | **819,088** | **641,469** | **630,520** | **808,292** | **830,531** | **83,409** | **88,615** | **2,350,835** | **2,368,753** |
| **1987 Total** | **849,613** | **850,410** | **673,707** | **660,433** | **845,266** | **858,233** | **86,854** | **88,196** | **2,455,440** | **2,457,272** |
| **1988 Total** | **892,125** | **892,866** | **697,711** | **699,100** | **895,751** | **896,498** | **82,362** | **89,598** | **2,567,949** | **2,578,062** |
| **1989** January | 85,075 | – | 58,324 | – | 74,590 | – | 7,597 | – | 225,587 | – |
| February | 78,158 | – | 56,433 | – | 73,175 | – | 7,190 | – | 214,956 | – |
| March | 77,215 | – | 57,453 | – | 74,448 | – | 7,484 | – | 216,600 | – |
| April | 64,698 | – | 55,210 | – | 74,923 | – | 7,094 | – | 201,926 | – |
| May | 61,108 | – | 56,428 | – | 77,119 | – | 7,278 | – | 201,933 | – |
| June | 71,675 | – | 62,969 | – | 79,379 | – | 7,758 | – | 221,781 | – |
| July | 85,596 | – | 67,624 | – | 79,011 | – | 8,033 | – | 240,263 | – |
| August | 86,143 | – | 68,187 | – | 81,240 | – | 8,046 | – | 243,615 | – |
| September | 78,725 | – | 65,532 | – | 79,845 | – | 7,824 | – | 231,926 | – |
| October | 65,136 | – | 59,352 | – | 79,421 | – | 7,592 | – | 211,500 | – |
| November | 64,844 | – | 56,716 | – | 76,788 | – | 7,394 | – | 205,742 | – |
| December | 85,605 | – | 61,001 | – | 76,437 | – | 7,777 | – | 230,820 | – |
| **Total** | **903,979** | **905,525** | **725,229** | **725,861** | **926,376** | **925,659** | **91,066** | **89,765** | **2,646,651** | **2,646,809** |
| **1990** January | 95,245 | – | 62,633 | – | 74,539 | – | 7,992 | – | 240,409 | – |
| February | 74,340 | – | 57,166 | – | 74,070 | – | 7,515 | – | 213,090 | – |
| March | 71,742 | – | 58,253 | – | 76,263 | – | 7,516 | – | 213,774 | – |
| April | 65,067 | – | 56,595 | – | 75,665 | – | 7,324 | – | 204,651 | – |
| May | 62,763 | – | 59,092 | – | 78,173 | – | 7,725 | – | 207,753 | – |
| June | 73,688 | – | 64,694 | – | 80,047 | – | 7,932 | – | 226,361 | – |
| July | 90,629 | – | 71,121 | – | 80,540 | – | 8,652 | – | 250,942 | – |
| August | 88,278 | – | 71,286 | – | 83,438 | – | 8,502 | – | 251,504 | – |
| September | 86,014 | – | 69,346 | – | 81,051 | – | 8,136 | – | 244,548 | – |
| October | 69,413 | – | 63,219 | – | 81,324 | – | 7,785 | – | 221,741 | – |
| November | 66,275 | – | 58,763 | – | 77,045 | – | 7,298 | – | 209,381 | – |
| December | 78,285 | – | 60,595 | – | 76,208 | – | 7,272 | – | 222,359 | – |
| **Total** | **921,739** | **NA** | **752,763** | **NA** | **938,362** | **NA** | **93,649** | **NA** | **2,706,512** | **NA** |
| **1991** January | 93,890 | – | 63,265 | – | 75,678 | – | 7,953 | – | 240,787 | – |
| February | 79,607 | – | 58,542 | – | 73,466 | – | 7,474 | – | 219,090 | – |
| March | 74,055 | – | 58,102 | – | 74,372 | – | 7,513 | – | 214,041 | – |
| April | 66,172 | – | 57,145 | – | 75,421 | – | 7,647 | – | 206,386 | – |
| May | 67,301 | – | 61,136 | – | 79,694 | – | 8,446 | – | 216,576 | – |
| June | 81,090 | – | 68,070 | – | 80,237 | – | 8,472 | – | 237,868 | – |
| July | 94,694 | – | 71,812 | – | 81,271 | – | 8,822 | – | 256,599 | – |
| **7-Month Total** | **556,809** | **–** | **438,071** | **–** | **540,140** | **–** | **56,328** | **–** | **1,591,347** | **–** |
| **1990 7-Month Total** | **533,474** | **–** | **429,554** | **–** | **539,296** | **–** | **54,655** | **–** | **1,556,980** | **–** |
| **1989 7-Month Total** | **523,525** | **–** | **414,441** | **–** | **532,646** | **–** | **52,434** | **–** | **1,523,047** | **–** |

[a] Other is public street and highway lighting, other sales to public authorities, sales to railroads and railways, and interdepartmental sales.

[b] Annual totals are the sums of the monthly values.

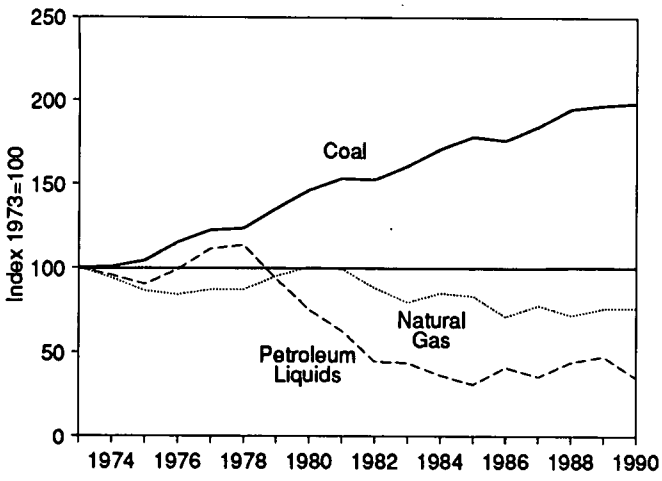
NA=Not available. – =Not applicable.

Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

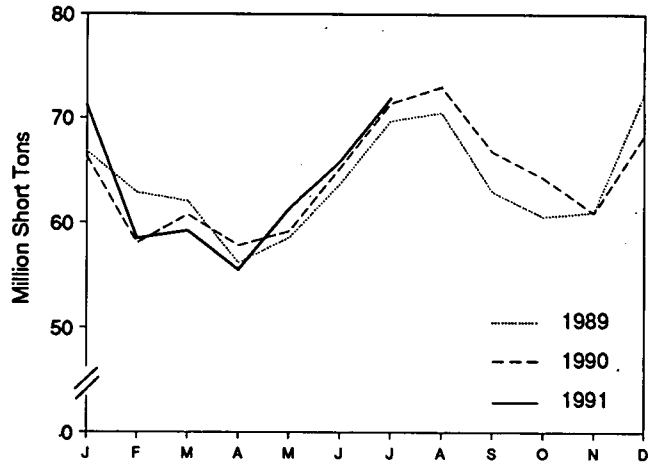
Sources: **1973-1979:** • 1973-September 1977: Federal Power Commission, Form FPC-5, "Monthly Statement of Electric Operating Revenue and Income." • October 1977-1979: Federal Energy Regulatory Commission, Form FERC-5, "Electric Operating Revenue and Income." **1980 forward:** Energy Information Administration, *Electric Power Monthly*, October 1991, Table 51.

## Figure 7.3 Electric Utility Consumption and Stocks of Fossil Fuels

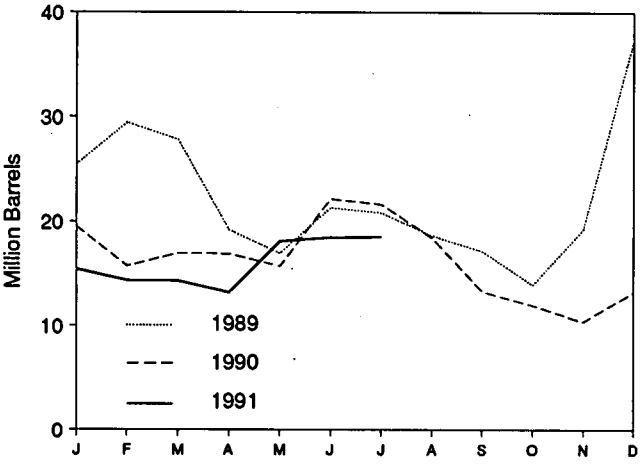
### Fuels Consumed, 1973-1990



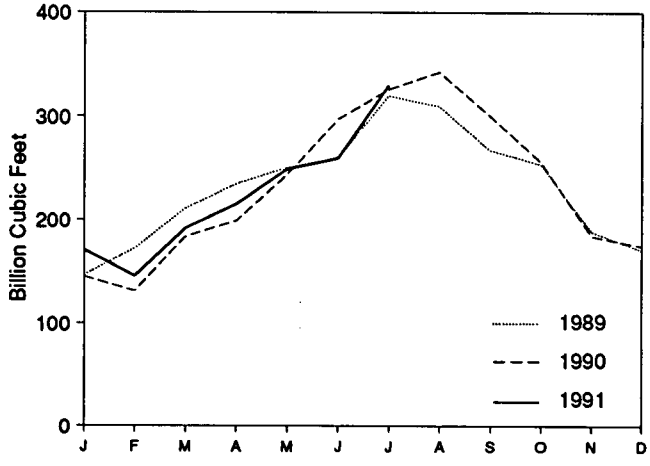

### Coal Consumed, Monthly



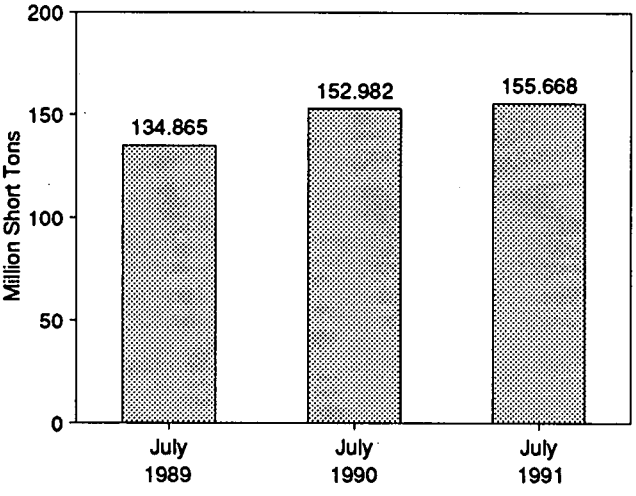

### Petroleum Liquids Consumed, Monthly



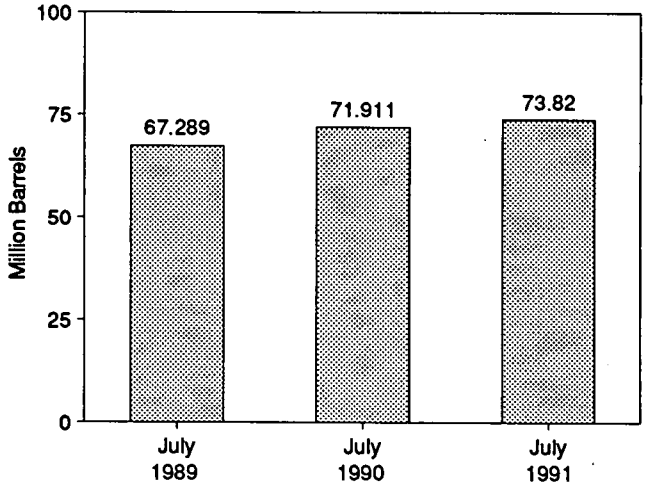

### Natural Gas Consumed, Monthly




### Coal Stocks, End of Month




### Petroleum Liquids Stocks, End of Month




Note: Because vertical scales differ, graphs should not be compared.
Sources: Tables 7.3 and 7.4.

# Table 7.3 Electric Utility Consumption of Fossil Fuels To Generate Electricity

| | Coal | | | | Petroleum | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | By Type of Petroleum | | By Prime Mover Type | | | | |
| | Anthracite | Bituminous Coal | Lignite | Total | Heavy Oil[a] | Light Oil[b] | Steam Plants | GT/IC[c] | Total Liquids | Petroleum Coke | Natural Gas[d] |
| | Thousand Short Tons | | | | Thousand Barrels | | | | | Thousand Short Tons | Million Cubic Feet |
| 1973 Total | 1,443 | 376,975 | 10,794 | 389,212 | NA | NA | 513,190 | 47,058 | 560,248 | 507 | 3,660,172 |
| 1974 Total | 1,498 | 378,643 | 11,670 | 391,811 | NA | NA | 483,146 | 53,128 | 536,274 | 625 | 3,443,428 |
| 1975 Total | 1,480 | 388,523 | 15,960 | 405,962 | NA | NA | 467,221 | 38,907 | 506,128 | 70 | 3,157,669 |
| 1976 Total | 1,350 | 425,205 | 21,817 | 448,371 | NA | NA | 514,077 | 41,843 | 555,920 | 68 | 3,080,868 |
| 1977 Total | 1,425 | 451,051 | 24,650 | 477,126 | NA | NA | 574,869 | 48,837 | 623,705 | 98 | 3,191,200 |
| 1978 Total | 1,064 | 448,763 | 31,407 | 481,235 | NA | NA | 588,319 | 47,520 | 635,839 | 398 | 3,188,363 |
| 1979 Total | 1,046 | 488,129 | 37,876 | 527,051 | NA | NA | 492,606 | 30,691 | 523,297 | 268 | 3,490,523 |
| 1980 Total | 951 | 526,680 | 41,642 | 569,274 | 391,163 | 29,051 | 401,863 | 18,351 | 420,214 | 179 | 3,681,595 |
| 1981 Total | 1,221 | 550,784 | 44,792 | 596,797 | 329,798 | 21,313 | 339,680 | 11,431 | 351,111 | 139 | 3,640,154 |
| 1982 Total | 1,075 | 543,346 | 49,245 | 593,666 | 234,434 | 15,337 | 243,537 | 6,234 | 249,771 | 149 | 3,225,518 |
| 1983 Total | 1,036 | 570,108 | 54,067 | 625,211 | 228,984 | 16,512 | 237,845 | 7,652 | 245,497 | 261 | 2,910,767 |
| 1984 Total | 1,070 | 606,339 | 56,990 | 664,399 | 189,289 | 15,190 | 197,050 | 7,429 | 204,479 | 252 | 3,111,342 |
| 1985 Total | 1,033 | 631,885 | 60,923 | 693,841 | 158,779 | 14,635 | 166,842 | 6,572 | 173,414 | 231 | 3,044,083 |
| 1986 Total | 829 | 616,134 | 68,093 | 685,056 | 216,156 | 14,326 | 222,500 | 7,983 | 230,482 | 313 | 2,602,370 |
| 1987 Total | 972 | 647,824 | 69,098 | 717,894 | 184,011 | 15,367 | 190,818 | 8,560 | 199,378 | 348 | 2,844,051 |
| 1988 Total | 1,063 | 681,048 | 76,260 | 758,372 | 229,327 | 18,769 | 235,817 | 12,279 | 248,096 | 409 | 2,635,613 |
| 1989 January | 98 | 59,707 | 6,962 | 66,767 | 23,425 | 2,055 | 24,273 | 1,206 | 25,479 | 47 | 147,141 |
| February | 75 | 56,764 | 5,945 | 62,784 | 27,056 | 2,427 | 27,981 | 1,502 | 29,483 | 33 | 172,379 |
| March | 82 | 55,937 | 5,986 | 62,005 | 25,133 | 2,691 | 25,900 | 1,924 | 27,824 | 35 | 211,095 |
| April | 96 | 50,259 | 5,789 | 56,144 | 18,144 | 1,045 | 18,652 | 538 | 19,190 | 38 | 234,726 |
| May | 98 | 52,420 | 6,009 | 58,527 | 15,448 | 1,522 | 16,014 | 957 | 16,970 | 36 | 250,555 |
| June | 75 | 56,841 | 6,719 | 63,635 | 19,253 | 2,070 | 19,832 | 1,490 | 21,322 | 38 | 259,941 |
| July | 97 | 62,322 | 7,302 | 69,720 | 18,643 | 2,180 | 19,233 | 1,590 | 20,822 | 58 | 319,709 |
| August | 95 | 63,278 | 7,121 | 70,493 | 17,133 | 1,530 | 17,623 | 1,040 | 18,663 | 58 | 309,597 |
| September | 81 | 56,533 | 6,295 | 62,910 | 15,642 | 1,526 | 16,126 | 1,041 | 17,168 | 54 | 267,545 |
| October | 87 | 54,775 | 5,699 | 60,561 | 12,807 | 1,180 | 13,334 | 653 | 13,987 | 39 | 254,074 |
| November | 85 | 54,628 | 6,294 | 61,006 | 17,762 | 1,484 | 18,371 | 875 | 19,247 | 33 | 188,924 |
| December | 81 | 65,040 | 7,215 | 72,336 | 31,514 | 5,781 | 32,975 | 4,320 | 37,295 | 50 | 171,326 |
| **Total** | **1,049** | **688,504** | **77,335** | **766,888** | **241,960** | **25,491** | **250,315** | **17,136** | **267,451** | **517** | **2,787,012** |
| 1990 January | 92 | 58,978 | 7,220 | 66,290 | 18,294 | 1,234 | 18,900 | 628 | 19,528 | 40 | 145,641 |
| February | 85 | 51,598 | 6,313 | 57,996 | 14,769 | 974 | 15,194 | 549 | 15,743 | 62 | 131,593 |
| March | 91 | 54,557 | 6,101 | 60,748 | 16,068 | 916 | 16,541 | 442 | 16,984 | 62 | 183,982 |
| April | 81 | 52,319 | 5,376 | 57,776 | 15,882 | 1,035 | 16,364 | 554 | 16,917 | 61 | 198,996 |
| May | 90 | 53,062 | 5,988 | 59,140 | 14,586 | 1,146 | 15,113 | 619 | 15,732 | 77 | 243,760 |
| June | 90 | 58,184 | 6,892 | 65,167 | 20,619 | 1,555 | 21,145 | 1,028 | 22,174 | 66 | 297,052 |
| July | 96 | 64,097 | 7,183 | 71,376 | 20,041 | 1,615 | 20,514 | 1,141 | 21,655 | 74 | 325,760 |
| August | 93 | 65,532 | 7,317 | 72,942 | 16,835 | 1,618 | 17,333 | 1,121 | 18,454 | 72 | 342,469 |
| September | 84 | 60,187 | 6,455 | 66,727 | 12,037 | 1,318 | 12,491 | 863 | 13,354 | 79 | 300,596 |
| October | 82 | 58,002 | 6,181 | 64,264 | 10,772 | 1,186 | 11,272 | 686 | 11,958 | 86 | 256,480 |
| November | 71 | 54,802 | 6,043 | 60,916 | 9,473 | 910 | 9,998 | 385 | 10,383 | 61 | 184,820 |
| December | 75 | 61,129 | 7,132 | 68,335 | 11,979 | 1,313 | 12,785 | 507 | 13,292 | 78 | 175,003 |
| **Total** | **1,031** | **692,447** | **78,201** | **771,678** | **181,354** | **14,821** | **187,651** | **8,523** | **196,175** | **819** | **2,786,153** |
| 1991 January | 74 | 63,563 | 7,553 | 71,190 | 14,264 | 1,189 | 14,911 | 542 | 15,453 | 74 | 171,140 |
| February | 68 | 51,919 | 6,456 | 58,443 | 13,595 | 798 | 14,021 | 372 | 14,393 | 57 | 145,947 |
| March | 93 | 52,847 | 6,255 | 59,195 | 13,513 | 848 | 14,019 | 342 | 14,361 | 73 | 191,879 |
| April | 92 | 50,172 | 5,219 | 55,483 | 12,142 | 1,098 | 12,722 | 518 | 13,240 | 72 | 215,213 |
| May | 73 | 55,300 | 5,926 | 61,298 | 16,311 | 1,821 | 16,919 | 1,214 | 18,132 | 75 | 249,071 |
| June | 72 | 58,415 | 7,290 | 65,777 | 17,325 | 1,153 | 17,879 | 600 | 18,478 | 50 | 259,673 |
| July | 101 | 64,213 | 7,548 | 71,862 | 17,289 | 1,259 | 17,784 | 764 | 18,548 | 61 | 329,512 |
| **7-Month Total** | **573** | **396,429** | **46,247** | **443,248** | **104,439** | **8,167** | **108,254** | **4,351** | **112,605** | **462** | **1,562,435** |
| **1990 7-Month Total** | **625** | **392,795** | **45,074** | **438,493** | **120,258** | **8,475** | **123,772** | **4,961** | **128,733** | **443** | **1,526,785** |
| **1989 7-Month Total** | **621** | **394,250** | **44,711** | **439,582** | **147,102** | **13,989** | **151,885** | **9,206** | **161,091** | **284** | **1,595,546** |

[a] Heavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils.
[b] Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.
[c] GT/IC = Gas turbine and internal combustion plants.
[d] Includes supplemental gaseous fuels.
NA=Not available.
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.
Sources: **Prime Mover Type Data:** • 1973-September 1977: Federal Power Commission (FPC), Form FPC-4, "Monthly Power Plant Report." • October 1977-1981: Federal Energy Regulatory Commission, Form FPC-4, "Monthly Power Plant Report." • 1982 forward: Energy Information Administration (EIA), Form EIA-759, "Monthly Power Plant Report." **All Other Data:** • 1973-September 1977: FPC, Form FPC-4, "Monthly Power Plant Report." • October 1977-1979: Federal Energy Regulatory Commission, Form FPC-4, "Monthly Power Plant Report." • 1980 forward: EIA, *Electric Power Monthly*, October 1991, Table 17.

# Table 7.4 Electric Utility Stocks of Coal and Petroleum, End of Period

| | Coal | | | | Petroleum | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | By Type of Petroleum | | By Prime Mover Type | | | |
| | Anthracite | Bituminous Coal | Lignite | Total | Heavy Oil[a] | Light Oil[b] | Steam Plants | GT/IC[c] | Total Liquids | Petroleum Coke |
| | Thousand Short Tons | | | | Thousand Barrels | | | | | Thousand Short Tons |
| 1973 Year | 1,066 | 84,941 | 961 | 86,967 | NA | NA | 79,121 | 10,095 | 89,216 | 312 |
| 1974 Year | 930 | 81,712 | 867 | 83,509 | NA | NA | 97,718 | 15,199 | 112,917 | 35 |
| 1975 Year | 982 | 107,927 | 1,815 | 110,724 | NA | NA | 108,825 | 16,432 | 125,257 | 31 |
| 1976 Year | 1,000 | 114,130 | 2,306 | 117,436 | NA | NA | 106,993 | 14,703 | 121,696 | 32 |
| 1977 Year | 2,321 | 128,210 | 2,688 | 133,219 | NA | NA | 124,750 | 19,281 | 144,031 | 44 |
| 1978 Year | 2,178 | 123,020 | 3,027 | 128,225 | NA | NA | 102,402 | 16,386 | 118,788 | 198 |
| 1979 Year | 3,274 | 152,981 | 3,459 | 159,714 | NA | NA | 111,121 | 20,301 | 131,422 | 183 |
| 1980 Year | 4,741 | 174,154 | 4,115 | 183,010 | 105,351 | 30,023 | 117,227 | 18,147 | 135,374 | 52 |
| 1981 Year | 5,537 | 158,258 | 5,098 | 168,893 | 102,042 | 26,094 | 112,380 | 15,756 | 128,136 | 42 |
| 1982 Year | 6,080 | 170,480 | 4,573 | 181,132 | 95,515 | 23,369 | 105,287 | 13,597 | 118,884 | 41 |
| 1983 Year | 6,507 | 145,250 | 3,841 | 155,598 | 70,573 | 18,801 | 78,285 | 11,090 | 89,375 | 55 |
| 1984 Year | 6,710 | 167,118 | 5,899 | 179,727 | 68,503 | 19,116 | 76,836 | 10,784 | 87,619 | 50 |
| 1985 Year | 7,189 | 142,144 | 7,043 | 156,376 | 57,304 | 16,386 | 64,704 | 8,985 | 73,689 | 49 |
| 1986 Year | 7,099 | 148,665 | 6,042 | 161,806 | 56,841 | 16,269 | 64,258 | 8,853 | 73,111 | 40 |
| 1987 Year | 6,940 | 156,670 | 7,187 | 170,797 | 55,069 | 15,759 | 61,705 | 9,123 | 70,827 | 51 |
| 1988 Year | 6,561 | 133,434 | 6,512 | 146,507 | 54,187 | 15,099 | 60,311 | 8,974 | 69,285 | 86 |
| 1989 January | 6,513 | 129,937 | 6,088 | 142,538 | 55,845 | 14,809 | 61,627 | 9,027 | 70,654 | 58 |
| February | 6,494 | 124,652 | 6,217 | 137,363 | 50,063 | 13,980 | 55,683 | 8,360 | 64,043 | 56 |
| March | 6,475 | 126,195 | 6,367 | 139,036 | 45,142 | 13,370 | 50,500 | 8,013 | 58,513 | 62 |
| April | 6,447 | 131,750 | 6,477 | 144,674 | 47,237 | 13,607 | 52,789 | 8,055 | 60,844 | 102 |
| May | 6,416 | 137,884 | 6,767 | 151,067 | 52,595 | 13,279 | 57,994 | 7,879 | 65,873 | 64 |
| June | 6,427 | 136,126 | 6,428 | 148,981 | 51,922 | 14,621 | 57,610 | 8,934 | 66,544 | 77 |
| July | 6,413 | 122,227 | 6,226 | 134,865 | 52,883 | 14,405 | 58,368 | 8,921 | 67,289 | 81 |
| August | 6,440 | 121,281 | 6,227 | 133,948 | 55,608 | 14,724 | 61,248 | 9,085 | 70,332 | 69 |
| September | 6,437 | 122,912 | 6,291 | 135,640 | 54,346 | 14,825 | 60,233 | 8,938 | 69,171 | 92 |
| October | 6,437 | 129,679 | 6,164 | 142,280 | 56,660 | 15,090 | 62,708 | 9,042 | 71,750 | 107 |
| November | 6,423 | 134,309 | 6,475 | 147,207 | 56,258 | 15,332 | 62,610 | 8,980 | 71,590 | 115 |
| December | 6,403 | 122,967 | 6,490 | 135,860 | 47,446 | 13,824 | 53,309 | 7,962 | 61,270 | 105 |
| 1990 January | 6,360 | 124,936 | 6,169 | 137,465 | 54,365 | 15,410 | 60,421 | 9,353 | 69,775 | 114 |
| February | 6,315 | 129,981 | 5,922 | 142,218 | 58,169 | 15,622 | 64,454 | 9,337 | 73,791 | 108 |
| March | 6,294 | 137,216 | 5,879 | 149,388 | 57,728 | 15,249 | 63,746 | 9,231 | 72,977 | 104 |
| April | 6,298 | 143,355 | 6,308 | 155,962 | 55,419 | 14,837 | 61,314 | 8,942 | 70,256 | 93 |
| May | 6,315 | 148,823 | 6,557 | 161,695 | 56,321 | 15,432 | 62,341 | 9,412 | 71,753 | 102 |
| June | 6,376 | 148,023 | 6,424 | 160,823 | 53,347 | 15,356 | 59,397 | 9,306 | 68,703 | 110 |
| July | 6,420 | 140,211 | 6,352 | 152,982 | 56,294 | 15,618 | 62,386 | 9,525 | 71,911 | 109 |
| August | 6,441 | 137,477 | 6,206 | 150,123 | 57,357 | 15,468 | 63,380 | 9,446 | 72,826 | 113 |
| September | 6,486 | 136,500 | 6,027 | 149,013 | 60,274 | 15,574 | 66,336 | 9,512 | 75,848 | 95 |
| October | 6,513 | 142,220 | 6,459 | 155,191 | 61,835 | 16,142 | 68,143 | 9,833 | 77,977 | 83 |
| November | 6,528 | 146,866 | 6,501 | 159,895 | 65,160 | 16,411 | 71,414 | 10,157 | 81,571 | 84 |
| December | 6,499 | 142,428 | 6,237 | 155,163 | 67,030 | 16,471 | 73,306 | 10,195 | 83,501 | 94 |
| 1991 January | 6,470 | 136,584 | 5,681 | 148,736 | 64,240 | 16,450 | 70,434 | 10,257 | 80,690 | 103 |
| February | 6,442 | 140,184 | 5,576 | 152,202 | 60,470 | 16,882 | 67,337 | 10,015 | 77,352 | 111 |
| March | 6,384 | 145,073 | 5,574 | 157,031 | 58,220 | 16,385 | 64,748 | 9,857 | 74,605 | 101 |
| April | 6,347 | 150,766 | 5,690 | 162,804 | 58,835 | 16,173 | 65,389 | 9,619 | 75,008 | 90 |
| May | 6,387 | 152,539 | 6,556 | 165,483 | 57,232 | 15,495 | 63,541 | 9,186 | 72,727 | 81 |
| June | 6,441 | 149,184 | 5,784 | 161,410 | 58,245 | 15,683 | 64,499 | 9,429 | 73,928 | 89 |
| July | 6,484 | 142,792 | 6,392 | 155,668 | 57,932 | 15,889 | 64,119 | 9,701 | 73,820 | 86 |

[a] Heavy oil includes Grade Nos. 4, 5, and 6, and residual fuel oils.
[b] Light oil includes Grade No. 2 heating oil, kerosene, and jet fuel.
[c] GT/IC = Gas turbine and internal combustion plants.
NA=Not available.
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.
Sources: **Prime Mover Type Data:** • 1973-September 1977: Federal Power Commission, Form FPC-4, "Monthly Power Plant Report." • October 1977-1981: Federal Energy Regulatory Commission, Form FPC-4, "Monthly Power Plant Report." • 1982 forward: Energy Information Administration (EIA), Form EIA-759, "Monthly Power Plant Report." **All Other Data:** • 1973-September 1977: Federal Power Commission, Form FPC-4, "Monthly Power Plant Report." • October 1977-1979: Federal Energy Regulatory Commission, Form FPC-4, "Monthly Power Plant Report." • 1980 forward: EIA, *Electric Power Monthly*, October 1991, Table 28.

# Section 8. Nuclear Energy

In July 1991, U.S. nuclear generating units produced a total of 61 net terawatthours (billion kilowatthours) of electricity, 13 percent[8] more than in July 1990. Nuclear units generated at an average capacity factor of 82 percent, 10 percentage points more than in July 1990. Nuclear power supplied 22.4 percent of the total electric utility-generated electricity in July 1991, compared with 20.1 percent in July 1990.

No low- or full-power licenses for nuclear power plants were issued by the Nuclear Regulatory Commission during July 1991.

On July 31, 1991, there were 111 operable nuclear generating units in the United States, with a collective net summer capability of 99.6 million kilowatts of electricity. Of the 111 operable units, 10 units generated at less than 25 percent of capacity because of maintenance, refueling, or repair outage and 9 generated no electricity during the month.

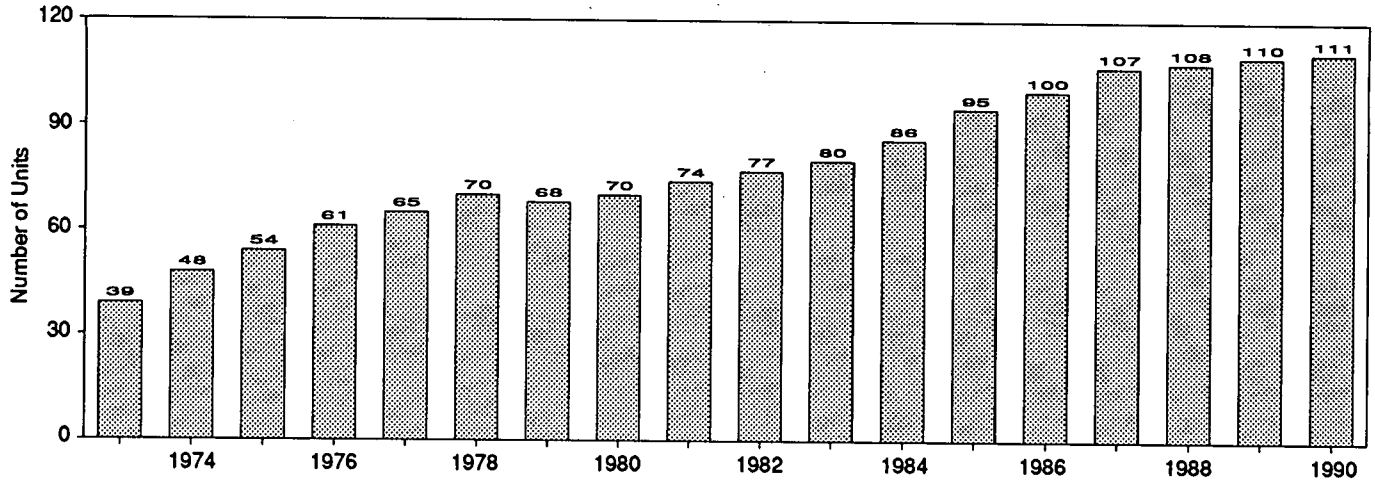
Two operable units, Browns Ferry 1 and 3, have been shut down since March 1985. Each unit had a capacity of 1,065 megawatts electric.

As of July 31, there were 119 domestic nuclear generating units in all stages of construction and operation. The aggregate net design capacity of operable units was 101.6 million kilowatts, and the design capacity of units under construction was 9.7 million kilowatts, for a total design capacity of 111.3 million kilowatts.

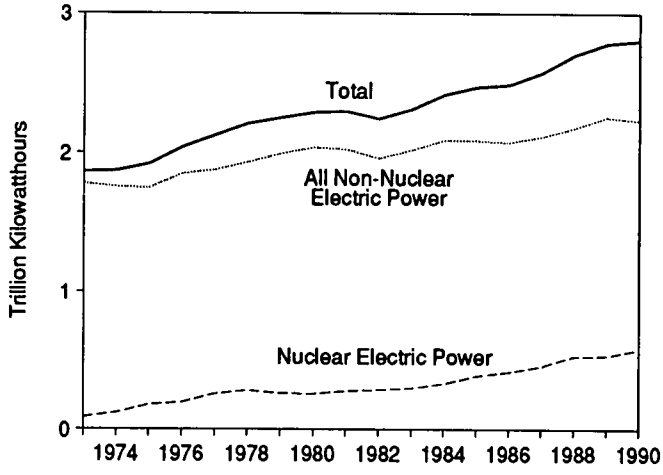
[8]Percentage changes are based on numbers shown in the following tables.

## Figure 8.1 Nuclear Power Plant Operations

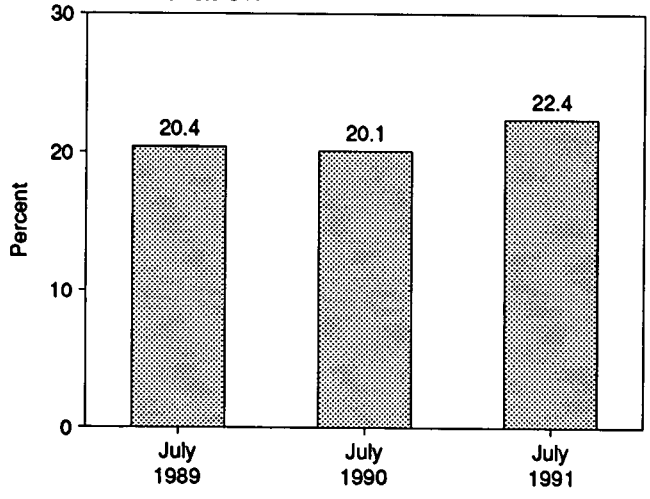
### Operable Units, End of Year, 1973-1990



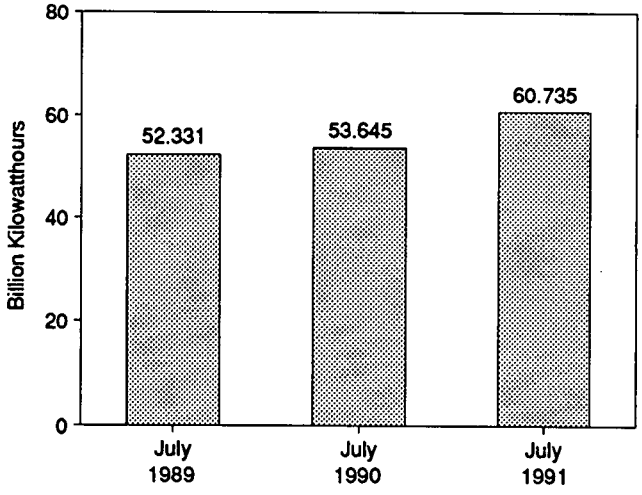

### Net Generation of Electricity, 1973-1990



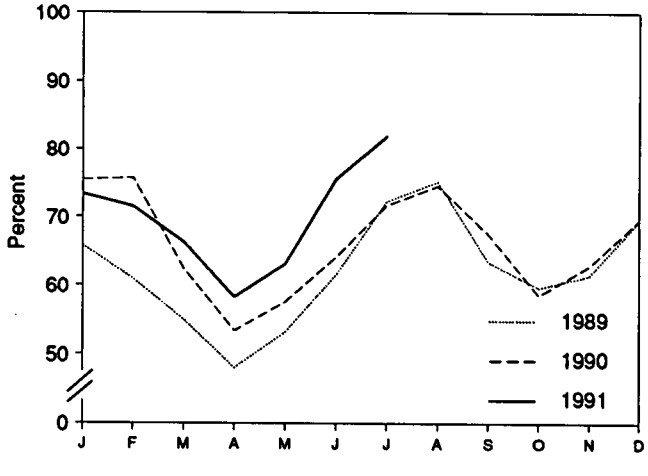

### Nuclear Portion of Domestic Electricity Net Generation




### Nuclear Electricity Net Generation




### Capacity Factor, Monthly




Note: Because vertical scales differ, graphs should not be compared.
Sources: Tables 7.1 and 8.1.

# Table 8.1 Nuclear Power Plant Operations

| | Operable Units[a,b] | Nuclear Electricity Net Generation | Nuclear Portion of Domestic Electricity Net Generation | Net Summer Capability of Operable Units[a,c] | Capacity Factor[d] |
|---|---|---|---|---|---|
| | Number | Million Kilowatthours | Percent | Million Kilowatts | Percent |
| **1973 Year** | **39** | **83,479** | **4.5** | **22.683** | **53.5** |
| **1974 Year** | **48** | **113,976** | **6.1** | **31.867** | **47.8** |
| **1975 Year** | **54** | **172,505** | **9.0** | **37.267** | **55.9** |
| **1976 Year** | **61** | **191,104** | **9.4** | **43.822** | **54.7** |
| **1977 Year** | **65** | **250,883** | **11.8** | **46.303** | **63.3** |
| **1978 Year** | **70** | **276,403** | **12.5** | **50.824** | **64.5** |
| **1979 Year** | **68** | **255,155** | **11.4** | **49.747** | **58.4** |
| **1980 Year** | **70** | **251,116** | **11.0** | **51.810** | **56.3** |
| **1981 Year** | **74** | **272,674** | **11.9** | **56.042** | **58.2** |
| **1982 Year** | **77** | **282,773** | **12.6** | **60.035** | **56.6** |
| **1983 Year** | **80** | **293,677** | **12.7** | **63.009** | **54.4** |
| **1984 Year** | **86** | **327,634** | **13.6** | **69.652** | **56.3** |
| **1985 Year** | **95** | **383,691** | **15.5** | **79.397** | **58.0** |
| **1986 Year** | **100** | **414,038** | **16.6** | **85.241** | **56.9** |
| **1987 Year** | **107** | **455,270** | **17.7** | **93.583** | **57.4** |
| **1988 Year** | **108** | **526,973** | **19.5** | **94.695** | **63.5** |
| **1989** January | 108 | 46,328 | 19.9 | 94.695 | 65.8 |
| February | 108 | 38,725 | 17.6 | 94.695 | 60.9 |
| March | 110 | 39,636 | 17.5 | 97.031 | 54.9 |
| April | 110 | 33,495 | 16.1 | 97.031 | 48.0 |
| May | 110 | 38,339 | 17.4 | 97.031 | 53.1 |
| June | 110 | 42,976 | 18.2 | 97.031 | 61.5 |
| July | 110 | 52,331 | 20.4 | 97.323 | 72.3 |
| August | 110 | 54,948 | 21.2 | 98.161 | 75.2 |
| September | 110 | 44,837 | 19.7 | 98.161 | 63.4 |
| October | 110 | 43,558 | 19.8 | 98.161 | 59.6 |
| November | 110 | 43,399 | 19.8 | 98.161 | 61.4 |
| December | 110 | 50,784 | 19.6 | 98.161 | 69.5 |
| **Year** | **110** | **529,355** | **19.0** | **98.161** | **62.2** |
| **1990** January | 110 | 55,119 | 23.2 | 98.161 | 75.5 |
| February | 110 | 49,963 | 23.5 | 98.161 | 75.7 |
| March | 111 | 46,087 | 20.4 | 99.311 | 62.4 |
| April | 112 | 38,516 | 18.2 | 100.461 | 53.3 |
| May | 112 | 42,945 | 19.3 | 100.461 | 57.5 |
| June | 112 | 46,332 | 18.6 | 100.461 | 64.1 |
| July | 112 | 53,645 | 20.1 | R100.497 | R71.7 |
| August | 112 | 55,758 | 20.8 | R100.497 | 74.6 |
| September | 111 | 48,485 | 20.4 | R99.624 | 67.5 |
| October | 111 | 43,395 | 19.3 | R99.624 | 58.5 |
| November | 111 | 45,034 | 21.1 | R99.624 | 62.8 |
| December | 111 | 51,582 | 21.7 | R99.624 | 69.6 |
| **Year** | **111** | **576,862** | **20.6** | **R99.624** | **R66.0** |
| **1991** January | 111 | 54,369 | 21.9 | R99.624 | 73.4 |
| February | 111 | 47,863 | 22.7 | R99.624 | 71.5 |
| March | 111 | 49,121 | 22.2 | R99.624 | 66.3 |
| April | 111 | 41,662 | 19.9 | R99.624 | 58.2 |
| May | 111 | 46,755 | 20.0 | R99.624 | 63.1 |
| June | 111 | 54,208 | 21.8 | R99.624 | 75.6 |
| July | 111 | 60,735 | 22.4 | 99.624 | 81.9 |
| **7-Month Total** | **111** | **354,713** | **21.6** | **99.624** | **70.0** |
| **1990 7-Month Total** | **112** | **332,607** | **20.5** | **100.497** | **65.6** |
| **1989 7-Month Total** | **110** | **291,830** | **18.2** | **97.323** | **59.5** |

[a] At end of period.
[b] See Note 1 at end of section.
[c] For the definition of net summer capability, see Note 3 at end of section .
[d] For an explanation of the method of calculating the capacity factor, see Note 4 at end of section.
R=Revised data.

Notes: • Geographic coverage is the 50 States and the District of Columbia. • Nuclear electricity net generation totals may not equal sum of components due to independent rounding.

Sources: • **Operable Units:** 1973-1982: U.S. Department of Energy (DOE), Office of Nuclear Programs, "U.S. Central Station Nuclear Electric Generating Units: Significant Milestones." 1983 forward: Nuclear Regulatory Commission (NRC), "Licensed Operating Reactors" (NUREG-0020). • **Nuclear Electricity Net Generation:** Table 7.1. • **Nuclear Portion of Domestic Electricity Net Generation:** Calculated from data in Table 7.1. • **Net Summer Capability of Operable Units:** 1973-1982: Compiled from various sources, primarily DOE, Office of Nuclear Reactor Programs, "U.S. Central Station Nuclear Electric Generating Units: Significant Milestones." 1983 forward: Energy Information Administration (EIA), Form EIA-860, "Annual Electric Generation Report." • **Capacity Factor:** EIA, Office of Coal, Nuclear, Electric and Alternate Fuels.

# Table 8.2 Nuclear Generating Units, End of Period

| | Licensed for Operation | | Construction Permits | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Operable[a] | In Startup[b] | Granted | Pending | On Order | Announced | Total | Total Design Capacity[c] |
| | Number of Units | | | | | | | Million Kilowatts |
| 1973 Year | 39 | 2 | 57 | 52 | 49 | 9 | 208 | 198 |
| 1974 Year | 48 | 5 | 62 | 75 | 30 | 6 | 226 | 223 |
| 1975 Year | 54 | 2 | 69 | 69 | 14 | 5 | 213 | 212 |
| 1976 Year | 61 | 1 | 71 | 63 | 16 | 2 | 214 | 211 |
| 1977 Year | 65 | 2 | 78 | 49 | 13 | 2 | 209 | 203 |
| 1978 Year | 70 | 0 | 88 | 32 | 5 | 0 | 195 | 191 |
| 1979 Year | 68 | 0 | 90 | 24 | 3 | 0 | 185 | 180 |
| 1980 Year | 70 | 1 | 82 | 12 | 3 | 0 | 168 | 162 |
| 1981 Year | 74 | 0 | 76 | 11 | 2 | 0 | 163 | 157 |
| 1982 Year | 77 | 2 | 60 | 3 | 2 | 0 | 144 | 134 |
| 1983 Year | 80 | 3 | 53 | 0 | 2 | 0 | 138 | 129 |
| 1984 Year | 86 | 6 | 38 | 0 | 2 | 0 | 132 | 123 |
| 1985 Year | 95 | 3 | 30 | 0 | 2 | 0 | 130 | 121 |
| 1986 Year | 100 | 7 | 19 | 0 | 2 | 0 | 128 | 119 |
| 1987 Year | 107 | 4 | 14 | 0 | 2 | 0 | 127 | 119 |
| 1988 Year | 108 | 3 | 12 | 0 | 0 | 0 | 123 | 115 |
| 1989 January | 108 | 3 | 12 | 0 | 0 | 0 | 123 | 115 |
| February | 108 | 3 | 12 | 0 | 0 | 0 | 123 | 115 |
| March | 110 | 2 | 11 | 0 | 0 | 0 | 123 | 115 |
| April | [d] 110 | 1 | 11 | 0 | 0 | 0 | [d] 122 | 114 |
| May | 110 | 1 | 11 | 0 | 0 | 0 | 122 | 114 |
| June | 110 | 1 | 11 | 0 | 0 | 0 | 122 | 114 |
| July | 110 | 2 | 10 | 0 | 0 | 0 | 122 | 114 |
| August | 110 | 1 | 10 | 0 | 0 | 0 | 122 | 114 |
| September | 110 | 1 | 10 | 0 | 0 | 0 | 121 | 113 |
| October | 110 | 1 | 10 | 0 | 0 | 0 | 121 | 113 |
| November | 110 | 1 | 10 | 0 | 0 | 0 | 121 | 113 |
| December | 110 | 1 | 10 | 0 | 0 | 0 | 121 | 113 |
| 1990 January | 110 | 1 | 10 | 0 | 0 | 0 | 121 | 113 |
| February | 110 | 2 | 9 | 0 | 0 | 0 | 121 | 113 |
| March | 111 | 1 | 9 | 0 | 0 | 0 | 121 | 113 |
| April | 112 | 0 | 9 | 0 | 0 | 0 | 121 | 113 |
| May | 112 | 0 | 9 | 0 | 0 | 0 | 121 | 113 |
| June | 112 | 0 | 9 | 0 | 0 | 0 | 121 | 113 |
| July | 112 | 0 | 9 | 0 | 0 | 0 | 121 | 113 |
| August | 112 | 0 | 9 | 0 | 0 | 0 | 121 | 113 |
| September | [e] 111 | 0 | 9 | 0 | 0 | 0 | 121 | 113 |
| October | 111 | 0 | 9 | 0 | 0 | 0 | [e] 120 | 113 |
| November | 111 | 0 | 9 | 0 | 0 | 0 | 120 | 113 |
| December | 111 | 0 | 8 | 0 | 0 | 0 | 120 | 113 |
| 1991 January | 111 | 0 | 8 | 0 | 0 | 0 | 119 | 111 |
| February | 111 | 0 | 8 | 0 | 0 | 0 | 119 | 111 |
| March | 111 | 0 | 8 | 0 | 0 | 0 | 119 | 111 |
| April | 111 | 0 | 8 | 0 | 0 | 0 | 119 | 111 |
| May | 111 | 0 | 8 | 0 | 0 | 0 | 119 | 111 |
| June | 111 | 0 | 8 | 0 | 0 | 0 | 119 | 111 |
| July | 111 | 0 | 8 | 0 | 0 | 0 | 119 | 111 |

[a] See Note 1 at end of section.
[b] See Note 2 at end of section.
[c] Net design electrical rating (DER) is used because many of the units were canceled prior to being assigned a net summer capability. See Note 3 at end of section.
[d] Shoreham received a full-power license in April 1989. Because the unit is not currently scheduled to operate, it is deleted from the total.
[e] As of September 1990, Rancho Seco is deleted from this category, because the unit is not currently scheduled to operate.
Note: Geographic coverage is the 50 States and the District of Columbia.
Sources: • **Licensed for Operation:** 1973-1982: U.S. Department of Energy (DOE), Office of Nuclear Programs, "U.S. Central Station Nuclear Electric Generating Units: Significant Milestones." 1983 forward: Nuclear Regulatory Commission (NRC), "Licensed Operating Reactors" (NUREG-0020). • **Construction Permits, On Order, and Announced:** 1973-1982: Compiled from various sources, primarily DOE, Office of Nuclear Reactor Programs, "U.S. Central Station Nuclear Electric Generating Units: Significant Milestones"; EIA, Office of Coal, Nuclear, Electric and Alternate Fuels (CNEAF), "Nuclear Steam-Electric Units That Have Been in Operation as of 1957-1989"; EIA, CNEAF, "Nuclear Plant Cancellations: Causes, Costs, and Consequences"; and Utility Data Institute, Inc., "U.S. Nuclear Plant Statistics, 1987." 1983 forward: NRC, "Summary Information Report" (NUREG-0871); NRC, "Licensed Operating Reactors" (NUREG-0020); and various journals. • **Total Design Capacity:** 1973-1982: Compiled from various sources, primarily DOE, Office of Nuclear Reactor Programs, "U.S. Central Station Nuclear Electric Generating Units: Significant Milestones"; EIA, CNEAF, "Nuclear Steam-Electric Units That Have Been in Operation as of 1957-1987"; EIA, CNEAF, "Monthly Report for Electric Utilities-Power Generation"; EIA, CNEAF, "Nuclear Plant Cancellations: Causes, Costs, and Consequences"; and Utility Data Institute, Inc., "U.S. Nuclear Plant Statistics, 1987." 1983 forward: NRC, "Summary Information Report" (NUREG-0871); NRC, "Licensed Operating Reactors" (NUREG-0020); and EIA, Form EIA-860, "Annual Electric Generator Report."

# Nuclear Energy Notes

**1. Operable Units:** Nuclear generating units that have been issued a full-power license by the Nuclear Regulatory Commission (NRC).

**Exceptions:** The Shippingport (60 MWe) and the Hanford-N (840 MWe) nuclear units were included in the operable units until 1982 and 1988, respectively. The Shippingport unit was excluded from the operable category during March 1974-August 1977 due to a major core modification outage. Hanford-N, an unlicensed unit used for defense material production, was included in the operable category because power was produced as by-product and sold commercially. Three Mile Island 2 (880 MWe) experienced a major accident in 1979 and, although that unit still retains its operating license and site cleanup continues, there is no plan to restart it. Therefore, it has not been included in the operable category since March 1979. Although Shoreham received a full-power license in April 1989, the unit is not currently scheduled to operate and, therefore, has not been included in the operable category. Rancho Seco (873 MWe) was shut down by the Sacramento Municipal Utility District (SMUD) in June 1989 following a referendum on its continued operation. Because there are currently no plans to operate it as a nuclear unit, it is no longer included as an operable unit but is identified as a unit shut down for an extended period. As soon as SMUD and the NRC formalize the plant's official retirement, it will be noted as such in this report. The Department of Energy-operated Experimental Breeder Reactor 2 (EBR-2) unit is not a commercial reactor and is therefore not included in the operable category.

In addition, six units have been retired and therefore removed from the operable category. Those units are: Peach Bottom 1 (40 MWe) and Indian Point 1 (265 MWe), both retired in 1974; Humboldt Bay (65 MWe), officially retired in 1976; Dresden 1 (200 MWe), retired in August 1979; LaCrosse (51 MWe), retired in May 1987; and Fort Saint Vrain (217 MWe), retired in August 1989.

**2. In Startup:** The period of time between a nuclear generating unit's initial fuel loading date and the issuance of its full-power license. During that period, the unit is undergoing low-power testing and the maximum level of operation is 5 percent of the unit's design thermal rating.

**3. Capacity:** Nuclear generating units may have more than one type of net capacity rating, including the following:

(a) Net Summer Capability—The steady hourly output that generating equipment is expected to supply to system load, exclusive of auxiliary power, as demonstrated by test at the time of summer peak demand. Auxiliary power of a typical nuclear power plant is about 5 percent of gross generation.

(b) Net Design Capacity or Net Design Electrical Rating (DER)—The nominal net electrical output of the unit, specified by the utility and used for plant design.

**4. Monthly Capacity Factors:** The monthly capacity factors are computed as the actual monthly generation divided by the maximum possible generation for that month. The maximum possible generation is the number of hours in the month multiplied by the net summer capability at the end of the month. That fraction is then multiplied by 100 to obtain a percentage. Annual capacity factors are averages of the monthly values for that year.

# Section 9. Energy Prices

**Crude Oil.** The average price of domestic crude oil purchased at the wellhead was $16.33 per barrel in July 1991, 16 percent above the level in July 1990. The refiner acquisition cost of imported crude oil in July 1991 was $18.14 per barrel, 10 percent above the July 1990 level. The cost of domestic crude oil in July 1991 was $18.91, 19 percent more than the July 1990 average.

**Motor Gasoline.** The national city average retail price of unleaded regular gasoline at all types of stations was $1.14 per gallon in August 1991, 4 percent lower than the price in August 1990. The price of unleaded premium gasoline averaged $1.32 per gallon in August 1991, 4 percent lower than the price in August 1990.

**Residual Fuel Oil.** The average price, excluding taxes, of residual fuel oil sold to end users in July 1991 was 31 cents per gallon, 6 percent higher than the previous month's price and 2 percent below the July 1990 average. The average resale price, excluding taxes, of residual fuel oil in July 1991 was 29 cents per gallon, 3 percent lower than the June 1991 average and 1 percent lower than the price 1 year earlier.

**Aviation Fuel.** The average price, excluding taxes, of aviation gasoline sold to end users in July 1991 was $1.04 per gallon, 2 percent lower than the previous month's price but the same as the July 1990 price. The average price, excluding taxes, of kerosene-type jet fuel sold to end users in July 1991 was 60 cents per gallon, 1 percent higher than the previous month's price and 8 percent higher than the July 1990 average.

**No. 2 Distillate Fuel Oil.** The July 1991 national average price, excluding taxes, of heating oil sold to residential customers was 87 cents per gallon, 3 percent below the June 1991 price but 3 percent higher than the July 1990 price. The average price of No. 2 fuel oil sold to all end users was 59 cents per gallon in July 1991, 5 percent above the June 1991 price and 10 percent higher than the July 1990 price.

**Electricity.** Beginning with January 1986, there were new series of national average price estimates based on a statistically derived sample of both publicly and privately owned electric utilities. Previously, average price estimates were derived from selected privately owned electric utilities and were not national averages.

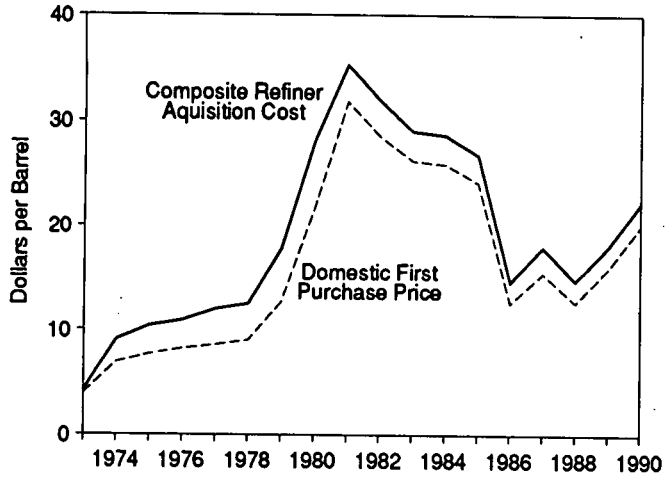
The mean price of electricity sold to all ultimate consumers in the United States in July 1991 was 7.1 cents per kilowatthour, 3 percent above the July 1990 mean price. The price of electricity sold to residential consumers in July 1991 averaged 8.4 cents per kilowatthour, 2 percent higher than the price 1 year earlier. The price of electricity sold to commercial consumers averaged 7.7 cents per kilowatthour in July 1991, 3 percent above the July 1990 price. The price of electricity sold to other consumers in July 1991 averaged 6.4 cents per kilowatthour, 2 percent more than the July 1990 price. The price of electricity sold to industrial users in July 1991 averaged 5.1 cents per kilowatthour, 2 percent above the price 1 year earlier.

**Natural Gas.** In June 1991, (the latest data available) the average wellhead price of natural gas was $1.39 per thousand cubic feet, 7 percent below the June 1990 price.

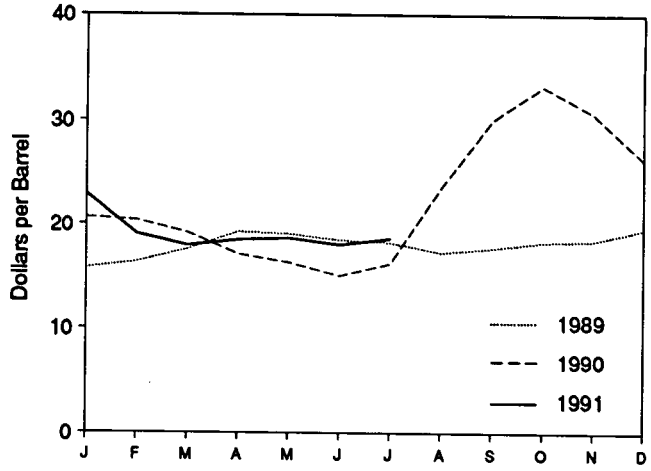
The average price of natural gas delivered to electric utility plants was $1.94 per thousand cubic feet in June 1991, 10 percent below the June 1990 price. The average price of natural gas used by residential consumers in July 1991 was $7.23 per thousand cubic feet, 3 percent above the July 1990 price. The average price of natural gas used by commercial consumers in July 1991 was $4.49 per thousand cubic feet, slightly higher than the July 1990 price. The average price of natural gas used by industrial consumers in July 1991 was $2.28 per thousand cubic feet, 7 percent below the July 1990 price.

## Figure 9.1 Petroleum Prices

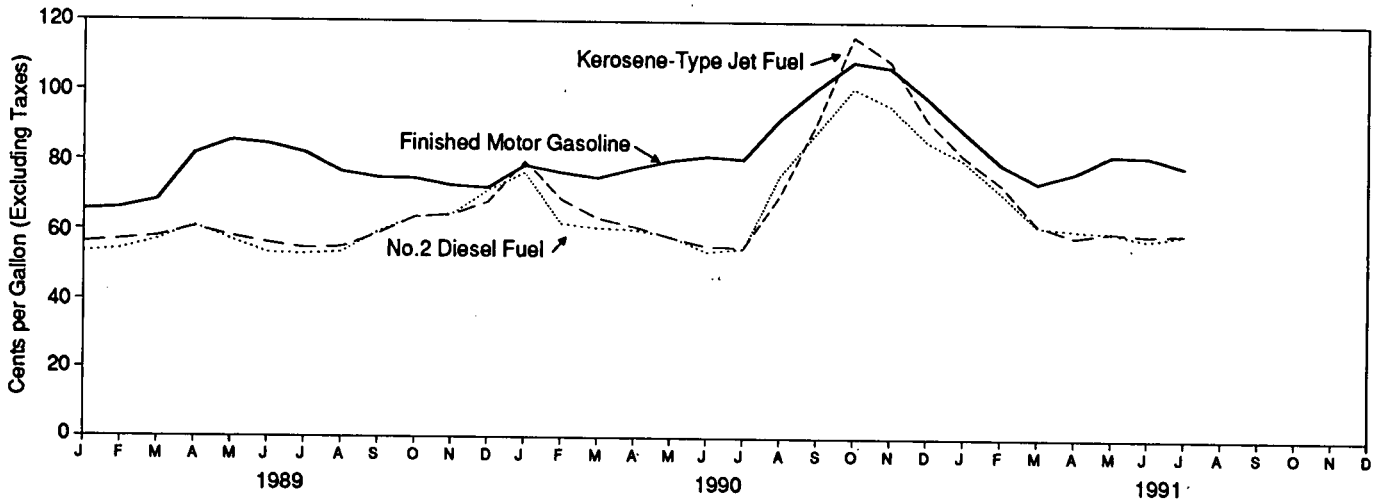
### Crude Oil Prices, 1973-1990



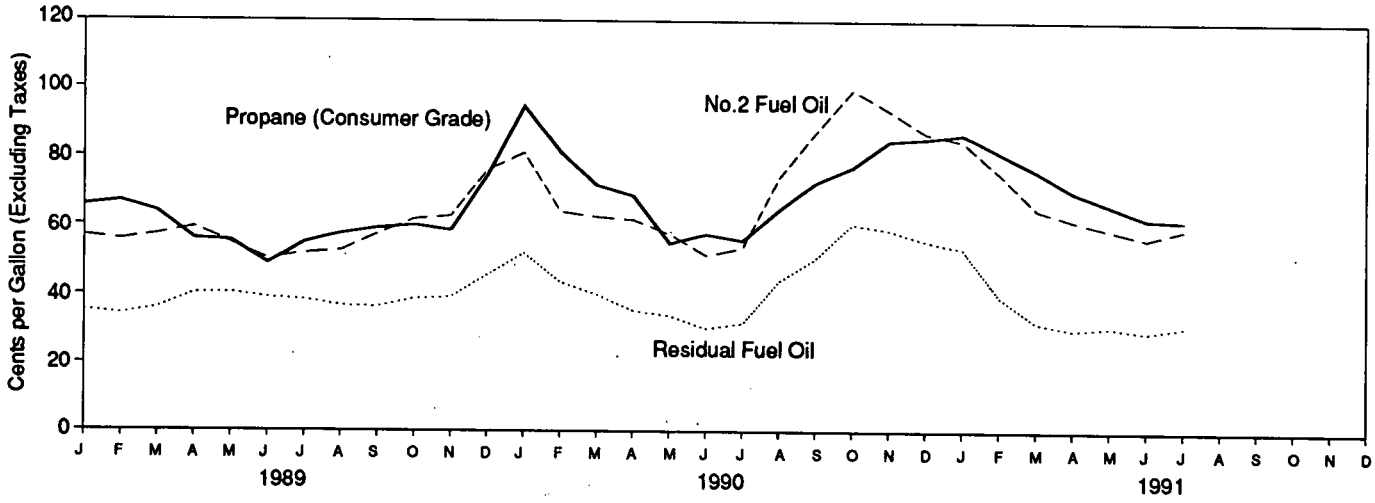

### Composite Refiner Acquisition Cost, Monthly




### Refiner Prices to End Users: Motor Gasoline, Diesel Fuel, and Jet Fuel, Monthly




### Refiner Prices to End Users: No. 2 Fuel Oil, Propane, and Residual Fuel, Monthly




Sources: Tables 9.1, 9.5, and 9.7.

# Table 9.1 Crude Oil Price Summary

(Dollars per Barrel)

| | Domestic First Purchase Price[b] | F.O.B. Cost of Imports[c] | Landed Cost of Imports[d] | Refiner Acquisition Cost[a] | | |
|---|---|---|---|---|---|---|
| | | | | Domestic | Imported | Composite |
| **1973 Average** | **3.89** | [e]5.21 | [e]6.41 | [E]4.17 | [E]4.08 | [E]4.15 |
| **1974 Average** | **6.87** | **10.91** | **12.32** | **7.18** | **12.52** | **9.07** |
| **1975 Average** | **7.67** | **11.18** | **12.70** | **8.39** | **13.93** | **10.38** |
| **1976 Average** | **8.19** | **12.15** | **13.32** | **8.84** | **13.48** | **10.89** |
| **1977 Average** | **8.57** | **13.24** | **14.36** | **9.55** | **14.53** | **11.96** |
| **1978 Average** | **9.00** | **13.29** | **14.35** | **10.61** | **14.57** | **12.46** |
| **1979 Average** | **12.64** | **20.07** | **21.45** | **14.27** | **21.67** | **17.72** |
| **1980 Average** | **21.59** | **32.37** | **33.67** | **24.23** | **33.89** | **28.07** |
| **1981 Average** | **31.77** | **35.15** | **36.47** | **34.33** | **37.05** | **35.24** |
| **1982 Average** | **28.52** | **32.02** | **33.18** | **31.22** | **33.55** | **31.87** |
| **1983 Average** | **26.19** | **27.81** | **28.93** | **28.87** | **29.30** | **28.99** |
| **1984 Average** | **25.88** | **27.60** | **28.54** | **28.53** | **28.88** | **28.63** |
| **1985 Average** | **24.09** | **25.84** | **26.67** | **26.66** | **26.99** | **26.75** |
| **1986 Average** | **12.51** | **12.52** | **13.49** | **14.82** | **14.00** | **14.55** |
| **1987 Average** | **15.40** | **16.69** | **17.65** | **17.76** | **18.13** | **17.90** |
| **1988 Average** | **12.58** | **13.25** | **14.08** | **14.74** | **14.56** | **14.67** |
| **1989** January | 13.80 | 14.67 | 15.68 | 15.50 | 16.04 | 15.73 |
| February | 14.24 | 15.49 | 16.41 | 16.11 | 16.61 | 16.32 |
| March | 15.65 | 16.73 | 17.47 | 17.34 | 17.77 | 17.52 |
| April | 17.04 | 18.23 | 18.97 | 18.91 | 19.59 | 19.22 |
| May | 16.76 | 17.51 | 18.33 | 19.01 | 19.05 | 19.03 |
| June | 16.42 | 16.80 | 17.61 | 18.56 | 18.27 | 18.43 |
| July | 16.32 | 16.47 | 17.39 | 18.32 | 17.99 | 18.18 |
| August | 15.01 | 16.12 | 16.83 | 17.23 | 17.23 | 17.23 |
| September | 15.58 | 16.49 | 17.28 | 17.70 | 17.62 | 17.66 |
| October | 16.25 | 17.10 | 17.93 | 18.20 | 18.29 | 18.24 |
| November | 16.30 | 17.34 | 18.16 | 18.45 | 18.32 | 18.39 |
| December | 17.01 | 18.80 | 19.54 | 19.16 | 20.05 | 19.54 |
| **Average** | **15.86** | **16.89** | **17.68** | **17.87** | **18.08** | **17.97** |
| **1990** January | 18.50 | 18.84 | 19.82 | 20.75 | 20.51 | 20.64 |
| February | 18.18 | 18.01 | 18.97 | 20.75 | 19.84 | 20.35 |
| March | 16.58 | 16.91 | 17.96 | 19.32 | 18.94 | 19.14 |
| April | 14.52 | 14.94 | 15.98 | 17.37 | 16.71 | 17.06 |
| May | 13.82 | 14.57 | 15.36 | 16.46 | 16.03 | 16.26 |
| June | 12.79 | 13.81 | 14.93 | 15.07 | 14.89 | 14.98 |
| July | 14.02 | 16.52 | 17.65 | 15.87 | 16.45 | 16.15 |
| August | 21.85 | 23.83 | 24.64 | 23.00 | 24.26 | 23.57 |
| September | 28.44 | 28.98 | 29.38 | 30.16 | 29.82 | 30.01 |
| October | 30.87 | 30.75 | 31.47 | 33.32 | 32.98 | 33.18 |
| November | 27.53 | 27.84 | 28.57 | 30.75 | 30.40 | 30.61 |
| December | 22.63 | 23.24 | 24.12 | 26.46 | 25.84 | 26.21 |
| **Average** | **20.03** | **20.39** | **21.16** | **22.60** | **21.78** | **22.23** |
| **1991** January | 19.58 | 19.94 | 20.89 | 23.25 | 22.41 | 22.90 |
| February | 16.22 | 16.31 | 17.26 | 19.53 | 18.30 | 19.02 |
| March | 15.08 | 15.88 | 17.16 | 18.12 | 17.59 | 17.89 |
| April | 16.14 | 16.64 | 17.81 | 18.56 | 18.27 | 18.43 |
| May | 16.41 | [R]16.42 | [R]17.82 | 18.98 | 18.14 | 18.60 |
| June | 15.55 | [R]15.84 | [R]17.17 | 18.16 | [R]17.78 | [R]17.98 |
| July | 16.33 | 16.60 | 17.70 | 18.91 | 18.14 | 18.57 |

[a] See Note 4 at end of section.
[b] See Note 1 at end of section.
[c] See Note 2 at end of section.
[d] See Note 3 at end of section.
[e] Based on October, November, and December data only.
R=Revised data. E=Estimate.

Notes: • Geographic coverage is the 50 States, the District of Columbia, Puerto Rico, the Virgin Islands, and all U.S. Territories and Possessions. • Values for Domestic First Purchase Price and Refiner Acquisition Cost for the current month and for F.O.B. and Landed Cost of Imports for the current 2 months are preliminary. • F.O.B. and landed costs through 1980 reflect the period of reporting; prices after 1980 reflect the period of loading • Annual averages are the averages of the monthly prices, weighted by volumes.

Sources: • **Domestic First Purchase Price:** 1973-1976: U.S. Department of the Interior (DOI), Bureau of Mines (BOM), *Minerals Yearbook*, "Crude Petroleum and Petroleum Products" chapter. 1977: Federal Energy Administration (FEA), based on Form FEA-P124, "Domestic Crude Oil Purchaser's Monthly Report." 1978 forward: Energy Information Administration (EIA), *Petroleum Marketing Monthly*, October 1991, Table 1. • **F.O.B. and Landed Cost of Imports:** October 1973-September 1977: Federal Energy Administration, Form FEA-F701-M-0, "Transfer Pricing Report." October-December 1977: EIA, Form FEA-F701-M-0, "Transfer Pricing Report." 1978 forward: EIA, *Petroleum Marketing Monthly*, October 1991, Table 1. • **Refiner Acquisition Cost:** 1973: EIA estimates. The domestic price was derived by adding estimated transportation costs to the reported domestic first purchase price. The imported price was derived by adding an estimated ocean transport cost to the average "Free Alongside Ship" value published by the U.S. Bureau of the Census. 1974-1976: DOI, BOM, *Minerals Yearbook*, "Crude Petroleum and Petroleum Products" chapter. 1977: January-September, FEA, based on Form FEA-P110-M-1,"Refiners' Monthly Cost Allocation Report." October-December, EIA, based on Form FEA-P110-M-1, "Refiners' Monthly Cost Allocation Report." 1978 forward: EIA, *Petroleum Marketing Monthly*, October 1991, Table 1.

# Table 9.2 F.O.B. Costs of Crude Oil Imports from Selected Countries

(Dollars per Barrel)

| | Algeria | Indonesia | Iran | Mexico | Nigeria | Saudi Arabia | United Kingdom | Venezuela | Other Countries | Arab OPEC[a] | Total OPEC[b] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1973 Average**[c] | **7.23** | **5.67** | **4.24** | **NA** | **7.81** | **3.25** | **NA** | **5.39** | **4.84** | **4.06** | **5.43** |
| **1974 Average** | **13.23** | **11.99** | **10.85** | **W** | **12.44** | **10.17** | **NA** | **10.71** | **10.02** | **10.96** | **11.33** |
| **1975 Average** | **11.93** | **12.55** | **10.81** | **11.44** | **11.82** | **10.87** | **NA** | **11.04** | **10.86** | **11.18** | **11.34** |
| **1976 Average** | **13.05** | **12.76** | **11.61** | **12.22** | **13.08** | **11.62** | **W** | **11.39** | **11.92** | **12.06** | **12.23** |
| **1977 Average** | **14.35** | **13.57** | **12.68** | **13.42** | **14.44** | **12.38** | **14.11** | **12.63** | **13.19** | **13.13** | **13.29** |
| **1978 Average** | **14.12** | **13.61** | **12.65** | **13.24** | **14.05** | **12.70** | **13.82** | **12.38** | **13.35** | **13.28** | **13.31** |
| **1979 Average** | **20.53** | **19.03** | **22.93** | **20.27** | **21.69** | **17.28** | **21.70** | **16.90** | **21.10** | **19.27** | **19.88** |
| **1980 Average** | **36.67** | **32.17** | **NA** | **31.06** | **35.93** | **28.17** | **34.36** | **24.81** | **34.34** | **31.57** | **32.21** |
| **1981 Average** | **39.08** | **35.62** | **(d)** | **33.01** | **38.31** | **32.60** | **36.06** | **28.95** | **36.69** | **34.79** | **35.17** |
| **1982 Average** | **34.20** | **35.11** | **30.97** | **28.08** | **35.13** | **33.73** | **33.42** | **23.74** | **31.96** | **33.84** | **33.48** |
| **1983 Average** | **30.09** | **29.92** | **28.39** | **25.20** | **29.81** | **27.53** | **29.91** | **21.48** | **27.96** | **28.28** | **28.46** |
| **1984 Average** | **28.34** | **29.13** | **27.42** | **26.39** | **29.51** | **27.67** | **28.87** | **24.23** | **27.79** | **27.79** | **27.79** |
| **1985 Average** | **26.89** | **27.12** | **W** | **25.33** | **28.04** | **22.04** | **27.64** | **23.64** | **26.12** | **24.34** | **25.67** |
| **1986 Average** | **13.62** | **13.19** | **W** | **11.84** | **14.35** | **11.36** | **13.84** | **10.92** | **13.32** | **11.59** | **12.21** |
| **1987 Average** | **16.79** | **17.40** | **W** | **16.36** | **18.47** | **15.12** | **18.28** | **15.08** | **17.11** | **15.80** | **16.43** |
| **1988 Average** | **W** | **13.81** | **(d)** | **12.18** | **15.16** | **12.16** | **14.80** | **12.96** | **13.45** | **12.57** | **13.43** |
| **1989** January | W | 14.52 | (d) | 13.98 | 16.11 | W | W | 13.10 | 15.05 | 14.91 | 14.77 |
| February | W | 17.14 | (d) | 14.25 | 17.15 | W | 16.33 | 14.00 | 15.83 | 16.35 | 15.98 |
| March | W | 17.05 | (d) | 14.98 | 18.37 | W | W | 16.62 | 17.29 | 17.45 | 17.37 |
| April | W | 17.78 | (d) | 17.44 | 19.81 | W | W | 17.77 | 18.75 | 16.85 | 18.35 |
| May | W | W | (d) | 16.95 | 18.60 | W | W | 16.78 | 17.97 | 15.98 | 17.28 |
| June | W | 17.78 | (d) | 16.62 | 17.68 | 15.54 | W | 15.42 | 17.12 | 16.01 | 16.49 |
| July | W | 17.61 | (d) | 16.41 | 17.67 | W | 17.66 | 14.34 | 16.74 | 15.66 | 16.02 |
| August | W | W | (d) | 15.22 | 17.25 | W | 17.11 | 15.82 | 16.08 | 15.91 | 16.36 |
| September | W | 16.37 | (d) | 15.37 | 18.00 | W | 17.22 | 16.02 | 16.62 | 16.50 | 16.68 |
| October | W | 16.35 | (d) | 16.12 | 18.99 | W | 17.78 | 15.45 | 17.37 | 17.05 | 17.20 |
| November | W | 17.28 | (d) | 16.44 | 19.11 | 18.09 | 18.37 | 15.56 | 17.45 | 17.53 | 17.52 |
| December | W | W | (d) | 17.74 | 19.93 | W | 19.57 | 19.32 | 18.43 | 18.70 | 19.24 |
| **Average** | **W** | **17.01** | **(d)** | **15.96** | **18.31** | **16.29** | **17.89** | **16.09** | **17.12** | **16.72** | **17.06** |
| **1990** January | W | 19.25 | (d) | 18.03 | 21.22 | W | 21.00 | 16.73 | 19.20 | 18.03 | 18.71 |
| February | W | 19.43 | (d) | 16.68 | 20.41 | W | W | 16.01 | 18.36 | 16.64 | 18.11 |
| March | W | 18.98 | (d) | 16.24 | 18.41 | W | W | 15.95 | 16.82 | 14.98 | 16.85 |
| April | W | 17.38 | (d) | 13.30 | 16.79 | 12.37 | 16.13 | 15.57 | 14.77 | 13.24 | 15.10 |
| May | W | 16.19 | (d) | 12.11 | 16.50 | 12.97 | 15.69 | 14.60 | 14.39 | 12.82 | 14.78 |
| June | W | 15.20 | (d) | 10.68 | 15.58 | W | W | 13.11 | 13.92 | 14.63 | 14.58 |
| July | W | 15.06 | (d) | 12.84 | 17.12 | W | 15.10 | 16.66 | 17.80 | 20.27 | 18.17 |
| August | W | 19.12 | (d) | 21.16 | 25.65 | 29.70 | 21.18 | 24.33 | 22.63 | 28.34 | 25.39 |
| September | W | W | (d) | 27.04 | 32.74 | W | 33.05 | 27.71 | 30.02 | 27.46 | 29.06 |
| October | W | 35.41 | (d) | 29.15 | 37.31 | 28.73 | 32.53 | 26.39 | 33.13 | 29.85 | 30.39 |
| November | W | W | (d) | 27.23 | 33.56 | 24.11 | W | 22.96 | 29.56 | 25.51 | 27.30 |
| December | W | W | (d) | 22.58 | 29.38 | 14.41 | W | 20.41 | 25.32 | 16.17 | 21.87 |
| **Average** | **W** | **21.29** | **(d)** | **19.25** | **22.52** | **20.48** | **23.43** | **19.55** | **19.93** | **18.96** | **20.45** |
| **1991** January | W | W | (d) | 19.39 | 24.68 | 12.69 | W | 17.04 | 21.22 | 16.04 | 19.45 |
| February | W | 20.82 | (d) | 13.62 | 20.48 | 14.06 | W | 14.50 | 17.12 | 14.56 | 16.73 |
| March | W | W | (d) | 13.59 | 19.44 | W | 24.50 | 14.90 | 16.18 | 15.21 | 16.47 |
| April | W | 16.80 | (d) | 15.34 | 19.12 | 15.51 | W | 15.38 | 16.90 | 16.01 | 16.98 |
| May | W | W | W | 15.24 | R19.30 | R15.05 | W | 14.79 | R16.95 | R15.64 | R16.65 |
| June | W | R16.77 | (d) | R14.65 | 18.38 | 14.88 | W | R13.54 | R16.33 | 15.58 | R16.11 |
| July | W | W | W | 15.11 | 19.36 | W | 19.25 | 14.94 | 17.26 | 15.52 | 16.81 |

[a] The Arab members of OPEC are Algeria, Iraq, Kuwait, Libya, Qatar, Saudi Arabia, and the United Arab Emirates.

[b] "Total OPEC" consists of Ecuador, Gabon, Indonesia, Iran, Nigeria, and Venezuela, as well as the Arab members. The cost of imports from the Neutral Zone between Kuwait and Saudi Arabia is included in the cost of imports from "Total OPEC."

[c] Based on October, November, and December data only.

[d] No data reported.

R=Revised data. NA=Not available. W=Value withheld to avoid disclosure of individual company data.

Notes: • The Free on Board (F.O.B) cost at the country of origin excludes all costs related to insurance and transportation. See Note 2 at end of section. • Values for the current 2 months are preliminary. • Prices through 1980 reflect the period of reporting; prices after 1980 reflect the period of loading. • Annual averages are averages of the monthly prices, including prices not published, weighted by volume. • Cargoes that are purchased on a "netback" basis, or under similar contractual arrangements whereby the actual purchase price is not established at the time the crude oil is acquired for importation into the United States, are not included in the published data until the actual prices have been determined and reported.

Sources: **October 1973-September 1977:** Federal Energy Administration, Form FEA-F701-M-0, "Transfer Pricing Report." **October 1977-December 1977:** Energy Information Administration (EIA), Form FEA-F701-M-0, "Transfer Pricing Report." **1978 forward:** EIA, *Petroleum Marketing Monthly*, October 1991, Table 21.

# Table 9.3 Landed Costs of Crude Oil Imports from Selected Countries

(Dollars per Barrel)

| | Algeria | Canada | Indonesia | Iran | Mexico | Nigeria | Saudi Arabia | United Kingdom | Venezuela | Other Countries | Arab OPEC[a] | Total OPEC[b] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1973 Average[c] | 8.39 | 5.33 | 7.22 | 6.48 | NA | 9.08 | 5.37 | NA | 5.99 | 6.99 | 5.92 | 6.85 |
| 1974 Average | 13.97 | 11.48 | 13.20 | 12.48 | W | 13.16 | 11.63 | NA | 11.25 | 12.93 | 12.39 | 12.49 |
| 1975 Average | 12.86 | 12.84 | 13.83 | 12.51 | 12.61 | 12.70 | 12.50 | NA | 12.36 | 12.66 | 12.71 | 12.70 |
| 1976 Average | 13.90 | 13.36 | 13.85 | 12.86 | 12.64 | 13.81 | 13.06 | W | 11.89 | 13.36 | 13.31 | 13.32 |
| 1977 Average | 15.24 | 14.13 | 14.65 | 13.86 | 13.82 | 15.29 | 13.69 | 14.83 | 13.11 | 14.56 | 14.30 | 14.35 |
| 1978 Average | 14.93 | 14.41 | 14.65 | 13.89 | 13.56 | 14.88 | 13.94 | 14.53 | 12.84 | 14.58 | 14.36 | 14.34 |
| 1979 Average | 21.88 | 20.22 | 20.63 | 24.21 | 20.77 | 22.97 | 18.95 | 22.97 | 17.65 | 22.86 | 20.79 | 21.29 |
| 1980 Average | 37.92 | 30.11 | 33.92 | NA | 31.77 | 37.15 | 29.80 | 35.68 | 25.92 | 36.15 | 32.97 | 33.56 |
| 1981 Average | 40.46 | 32.32 | 37.31 | (d) | 33.70 | 39.66 | 34.20 | 37.29 | 29.91 | 38.54 | 36.22 | 36.60 |
| 1982 Average | 35.35 | 27.15 | 36.70 | 32.46 | 28.63 | 36.16 | 34.99 | 34.25 | 24.93 | 34.03 | 35.15 | 34.81 |
| 1983 Average | 31.26 | 25.63 | 31.57 | 29.81 | 25.78 | 30.85 | 29.27 | 30.87 | 22.94 | 29.68 | 29.87 | 29.84 |
| 1984 Average | 29.06 | 26.56 | 30.87 | 28.70 | 26.85 | 30.36 | 29.20 | 29.45 | 25.19 | 29.21 | 29.10 | 29.06 |
| 1985 Average | 27.51 | 25.71 | 28.67 | 25.79 | 25.63 | 28.96 | 24.72 | 28.36 | 24.43 | 27.33 | 25.90 | 26.86 |
| 1986 Average | 14.82 | 13.43 | 14.63 | 12.38 | 12.17 | 15.29 | 12.84 | 14.63 | 11.52 | 14.25 | 13.14 | 13.46 |
| 1987 Average | 17.87 | 17.04 | 18.49 | 18.28 | 16.69 | 19.32 | 16.81 | 18.78 | 15.76 | 18.30 | 17.32 | 17.64 |
| 1988 Average | W | 13.50 | 15.15 | W | 12.58 | 15.88 | 13.37 | 15.82 | 13.66 | 14.45 | 13.60 | 14.18 |
| 1989 January | W | 14.47 | 16.30 | (d) | 14.48 | 17.54 | 15.90 | 17.17 | 14.05 | 15.88 | 15.73 | 15.98 |
| February | W | 14.97 | 17.86 | (d) | 14.55 | 18.19 | 16.60 | 17.88 | 14.62 | 17.22 | 16.52 | 16.74 |
| March | W | 15.88 | 18.67 | (d) | 15.37 | 19.32 | 17.00 | 17.90 | 17.30 | 18.34 | 17.33 | 17.80 |
| April | 22.13 | 17.42 | 19.11 | (d) | 17.78 | 20.53 | 18.95 | 20.00 | 18.45 | 19.36 | 18.90 | 19.23 |
| May | W | 17.81 | 19.37 | (d) | 17.35 | 19.65 | 17.43 | 20.04 | 17.32 | 18.79 | 17.58 | 18.15 |
| June | W | 17.69 | 18.92 | (d) | 16.99 | 18.90 | 16.84 | 18.74 | 16.13 | 17.96 | 17.01 | 17.45 |
| July | W | 17.89 | 18.92 | (d) | 16.84 | 18.68 | 16.72 | 18.81 | 15.13 | 17.44 | 16.73 | 17.13 |
| August | W | 16.62 | W | (d) | 15.62 | 18.01 | 16.42 | 18.20 | 16.50 | 16.89 | 16.45 | 16.86 |
| September | W | 17.00 | 17.82 | (d) | 15.76 | 18.72 | 16.84 | 18.11 | 16.67 | 17.54 | 16.97 | 17.29 |
| October | W | 17.44 | 17.70 | (d) | 16.52 | 19.82 | 17.90 | 18.71 | 16.13 | 18.27 | 17.82 | 17.97 |
| November | 18.55 | 17.08 | 18.16 | (d) | 16.85 | 20.14 | 18.08 | 19.31 | 16.38 | 18.74 | 18.16 | 18.27 |
| December | W | 17.49 | 19.20 | (d) | 18.01 | 20.98 | 19.28 | 20.32 | 20.16 | 19.84 | 19.52 | 19.93 |
| **Average** | **19.13** | **16.81** | **18.35** | (d) | **16.35** | **19.19** | **17.34** | **18.74** | **16.78** | **18.08** | **17.41** | **17.78** |
| 1990 January | W | 18.52 | 20.86 | (d) | 18.48 | 22.36 | 19.18 | 21.56 | 17.86 | 20.50 | 19.36 | 19.79 |
| February | W | 18.52 | 21.21 | (d) | 17.13 | 21.46 | 18.32 | W | 16.69 | 19.59 | 18.28 | 18.99 |
| March | W | 17.30 | 20.65 | (d) | 16.64 | 19.69 | 16.67 | 20.71 | 16.64 | 18.28 | 16.69 | 17.72 |
| April | W | 15.65 | 18.98 | (d) | 13.83 | 18.06 | 14.58 | 17.92 | 16.30 | 16.19 | 14.74 | 15.86 |
| May | W | 15.52 | 17.83 | (d) | 12.78 | 17.53 | 14.21 | 17.12 | 15.47 | 15.38 | 14.13 | 15.21 |
| June | W | 14.00 | 16.43 | (d) | 11.23 | 16.63 | 16.04 | 17.01 | 14.00 | 15.25 | 15.45 | 15.47 |
| July | 17.67 | 15.03 | 15.96 | (d) | 13.37 | 18.04 | 19.89 | 16.68 | 17.40 | 18.57 | 19.85 | 19.01 |
| August | W | 21.26 | 20.23 | (d) | 21.50 | 26.71 | 28.72 | 23.80 | 25.08 | 23.23 | 26.94 | 26.31 |
| September | W | 27.80 | 25.50 | (d) | 27.38 | 33.41 | 29.83 | 30.26 | 28.56 | 29.46 | 29.89 | 30.09 |
| October | W | 31.04 | 36.61 | (d) | 29.61 | 37.72 | 30.46 | 33.75 | 27.00 | 34.51 | 30.75 | 31.08 |
| November | W | 28.60 | W | (d) | 27.69 | 34.55 | 27.25 | W | 23.77 | 30.42 | 27.51 | 28.19 |
| December | W | 23.60 | 28.53 | (d) | 23.00 | 30.45 | 21.05 | W | 21.30 | 27.59 | 21.49 | 23.38 |
| **Average** | **W** | **20.51** | **22.42** | (d) | **19.63** | **23.38** | **21.89** | **22.68** | **20.31** | **20.55** | **20.71** | **21.28** |
| 1991 January | W | 20.81 | W | (d) | 19.98 | 26.00 | 18.56 | W | 18.35 | 24.07 | 18.98 | 20.21 |
| February | W | 17.05 | 22.61 | (d) | 14.23 | 21.66 | 16.15 | W | 15.76 | 19.42 | 16.26 | 17.43 |
| March | W | 15.20 | 20.03 | (d) | 14.15 | 20.60 | 17.07 | 25.77 | 16.18 | 18.59 | 17.22 | 17.88 |
| April | W | 16.26 | 18.80 | (d) | 15.85 | 20.31 | 17.65 | 20.56 | 16.34 | 18.76 | 17.75 | 18.22 |
| May | W | 16.28 | W | W | 15.81 | R20.50 | R17.29 | 20.21 | R15.85 | R19.55 | R17.45 | R17.99 |
| June | W | 16.22 | R18.25 | (d) | R15.16 | R19.78 | R16.88 | 19.35 | R14.54 | R18.36 | R17.06 | R17.36 |
| July | W | 17.19 | 17.76 | W | 15.73 | 20.60 | 17.21 | 20.40 | 16.01 | 18.70 | 17.38 | 17.86 |

[a] The Arab members of OPEC are Algeria, Iraq, Kuwait, Libya, Qatar, Saudi Arabia, and the United Arab Emirates.

[b] "Total OPEC" consists of Ecuador, Gabon, Indonesia, Iran, Nigeria, and Venezuela, as well as the Arab members. The cost of imports from the Neutral Zone between Kuwait and Saudi Arabia is included in the cost of imports from "Total OPEC."

[c] Based on October, November, and December data only.

[d] No data reported.

R=Revised data. NA=Not available. W=Value withheld to avoid disclosure of individual company data.

Notes: • See Note 3 at end of section. • Values for the current 2 months are preliminary. • Prices through 1980 reflect the period of reporting; prices since then reflect the period of loading. • Annual averages are averages of the monthly prices, including prices not published, weighted by volume. • Cargoes that are purchased on a "netback" basis, or under similar contractual arrangements whereby the actual purchase price is not established at the time the crude oil is acquired for importation into the United States, are not included in the published data until the actual prices have been determined and reported.

Sources: **October 1973-September 1977:** Federal Energy Administration, Form FEA-F701-M-0, "Transfer Pricing Report." **October 1977-December 1977:** Energy Information Administration (EIA), Form FEA-F701-M-0, "Transfer Pricing Report." **1978 forward:** EIA, *Petroleum Marketing Monthly*, October 1991, Table 22.

# Table 9.4 Motor Gasoline Retail Prices, U.S. City Average

(Cents per Gallon, Including Taxes)

| | Leaded Regular | Unleaded Regular | Unleaded Premium | All Types[a] |
|---|---|---|---|---|
| **1973 Average** | **38.8** | **NA** | **NA** | **NA** |
| **1974 Average** | **53.2** | **NA** | **NA** | **NA** |
| **1975 Average** | **56.7** | **NA** | **NA** | **NA** |
| **1976 Average** | **59.0** | **61.4** | **NA** | **NA** |
| **1977 Average** | **62.2** | **65.6** | **NA** | **NA** |
| **1978 Average** | **62.6** | **67.0** | **NA** | **65.2** |
| **1979 Average** | **85.7** | **90.3** | **NA** | **88.2** |
| **1980 Average** | **119.1** | **124.5** | **NA** | **122.1** |
| **1981 Average[b]** | **131.1** | **137.8** | **[c]147.0** | **135.3** |
| **1982 Average** | **122.2** | **129.6** | **141.5** | **128.1** |
| **1983 Average** | **115.7** | **124.1** | **138.3** | **122.5** |
| **1984 Average** | **112.9** | **121.2** | **136.6** | **119.8** |
| **1985 Average** | **111.5** | **120.2** | **134.0** | **119.6** |
| **1986 Average** | **85.7** | **92.7** | **108.5** | **93.1** |
| **1987 Average** | **89.7** | **94.8** | **109.3** | **95.7** |
| **1988 Average** | **89.9** | **94.6** | **110.7** | **96.3** |
| **1989** January | 87.6 | 91.8 | 109.1 | 94.4 |
| February | 88.6 | 92.6 | 110.0 | 95.5 |
| March | 90.7 | 94.0 | 111.5 | 97.4 |
| April | 104.7 | 106.5 | 122.1 | 109.8 |
| May | 109.8 | 111.9 | 127.8 | 115.2 |
| June | 109.3 | 111.4 | 127.8 | 115.0 |
| July | 107.5 | 109.2 | 126.4 | 113.2 |
| August | 103.4 | 105.7 | 123.3 | 109.6 |
| September | 100.7 | 102.9 | 121.3 | 107.3 |
| October | 100.1 | 102.7 | 120.9 | 107.1 |
| November | 97.5 | 99.9 | 118.7 | 104.6 |
| December | 96.1 | 98.0 | 117.0 | 103.0 |
| **Average** | **99.8** | **102.1** | **119.7** | **106.0** |
| **1990** January | 100.6 | 104.2 | 123.0 | 109.0 |
| February | 101.1 | 103.7 | 122.7 | 108.6 |
| March | 99.9 | 102.3 | 121.8 | 107.6 |
| April | 102.7 | 104.4 | 123.3 | 109.6 |
| May | 104.4 | 106.1 | 124.8 | 111.4 |
| June | 107.7 | 108.8 | 127.1 | 114.0 |
| July | 108.9 | 108.4 | 127.2 | 113.9 |
| August | 119.8 | 119.0 | 136.9 | 124.6 |
| September | 129.7 | 129.4 | 146.7 | 134.7 |
| October | 135.4 | 137.8 | 155.4 | 143.1 |
| November | 135.1 | 137.7 | 155.9 | 143.2 |
| December | 133.5 | 135.4 | 153.7 | 141.0 |
| **Average** | **114.9** | **116.4** | **134.9** | **121.7** |
| **1991** January | 124.6 | 124.7 | 143.1 | 130.4 |
| February | 113.7 | 114.3 | 132.1 | 119.8 |
| March | 104.7 | 108.2 | 126.4 | 113.8 |
| April | 106.2 | 110.4 | 128.1 | 115.9 |
| May | NA | 115.6 | 133.1 | 120.9 |
| June | NA | 116.0 | 133.8 | 121.4 |
| July | NA | 112.7 | 131.3 | 118.5 |
| August | NA | 114.0 | 131.8 | 119.6 |

[a] Also includes types of motor gasoline not shown separately.

[b] In September 1981, the Bureau of Labor Statistics changed the weights used in the calculation of average motor gasoline prices. From September 1981 forward, gasohol is included in the average for all types, and unleaded premium is weighted more heavily.

[c] Based on September through December data only.

NA=Not available.

Notes: • See Note 5 at end of section. • Geographic coverage for 1973-1977 is 56 urban areas. Geographic coverage for 1978 forward is 85 urban areas.

Sources: • **Monthly Data:** U.S. Department of Labor, Bureau of Labor Statistics (BLS), *Consumer Prices: Energy.* • **Annual Data:** 1973: *Platt's Oil Price Handbook and Oilmanac,* 1974, 51st Edition. 1974 forward: calculated by the Energy Information Administration as the simple averages of monthly data.

# Table 9.5 Refiner Prices of Residual Fuel Oil

(Cents per Gallon, Excluding Taxes)

| | Residual Fuel Oil Sulfur Content Less Than or Equal to 1 Percent | | Residual Fuel Oil Sulfur Content Greater Than 1 Percent | | Average | |
|---|---|---|---|---|---|---|
| | Sales for Resale | Sales to End Users | Sales for Resale | Sales to End Users | Sales for Resale | Sales to End Users |
| **1978 Average** | 29.3 | 31.4 | 24.5 | 27.5 | 26.3 | 29.8 |
| **1979 Average** | 45.0 | 46.8 | 36.6 | 38.9 | 39.9 | 43.6 |
| **1980 Average** | 60.8 | 67.5 | 47.9 | 52.3 | 52.8 | 60.7 |
| **1981 Average** | 74.8 | 82.9 | 62.2 | 67.3 | 66.3 | 75.6 |
| **1982 Average** | 69.5 | 74.7 | 57.2 | 61.1 | 61.2 | 67.6 |
| **1983 Average** | 64.3 | 69.5 | 59.1 | 61.1 | 60.9 | 65.1 |
| **1984 Average** | 68.5 | 72.0 | 63.9 | 65.9 | 65.4 | 68.7 |
| **1985 Average** | 61.0 | 64.4 | 56.0 | 58.2 | 57.7 | 61.0 |
| **1986 Average** | 32.8 | 37.2 | 28.9 | 31.7 | 30.5 | 34.3 |
| **1987 Average** | 41.2 | 44.7 | 36.2 | 39.6 | 38.5 | 42.3 |
| **1988 Average** | 33.3 | 37.2 | 27.1 | 30.0 | 30.0 | 33.4 |
| **1989** January | 38.8 | 41.7 | 29.1 | 30.5 | 32.8 | 35.4 |
| February | 37.0 | 39.8 | 30.5 | 29.9 | 33.2 | 34.3 |
| March | 38.8 | 42.0 | 28.1 | 29.7 | 32.1 | 36.1 |
| April | 44.1 | 46.6 | 34.2 | 34.9 | 38.1 | 40.3 |
| May | 43.6 | 46.5 | 34.7 | 36.3 | 37.6 | 40.5 |
| June | 39.3 | 42.8 | 33.9 | 36.2 | 35.5 | 39.1 |
| July | 39.0 | 42.1 | 34.0 | 35.5 | 35.7 | 38.5 |
| August | 37.3 | 39.6 | 33.0 | 34.5 | 34.4 | 36.8 |
| September | 38.2 | 40.2 | 32.3 | 34.2 | 35.1 | 36.5 |
| October | 40.2 | 43.2 | 34.5 | 35.9 | 36.9 | 38.8 |
| November | 40.5 | 44.1 | 34.2 | 36.2 | 36.6 | 39.3 |
| December | 47.7 | 53.4 | 38.3 | 39.5 | 42.1 | 45.7 |
| **Average** | **40.7** | **43.6** | **33.1** | **34.4** | **36.0** | **38.5** |
| **1990** January | 56.0 | 60.0 | 41.9 | 45.1 | 48.1 | 52.0 |
| February | 44.6 | 51.3 | 34.7 | 37.2 | 38.2 | 43.6 |
| March | 39.8 | 45.3 | 31.2 | 35.4 | 34.4 | 40.1 |
| April | 36.1 | 39.6 | 31.1 | 32.5 | 33.3 | 35.5 |
| May | 34.2 | 37.9 | 28.5 | 31.4 | 30.5 | 34.1 |
| June | 31.4 | 34.2 | 24.8 | 27.6 | 27.2 | 30.4 |
| July | 33.4 | 36.3 | 25.3 | 28.3 | 29.1 | 31.9 |
| August | 49.5 | 50.7 | 41.1 | 39.5 | 44.4 | 44.1 |
| September | 56.8 | 59.4 | 46.1 | 46.2 | 50.8 | 50.7 |
| October | 63.4 | 68.6 | 53.1 | 54.6 | 57.3 | 60.5 |
| November | 63.3 | 66.5 | 49.7 | 53.9 | 55.6 | 58.7 |
| December | 56.6 | 62.2 | 44.1 | 50.2 | 48.6 | 55.5 |
| **Average** | **47.1** | **50.4** | **37.2** | **39.9** | **41.2** | **44.4** |
| **1991** January | 51.4 | 59.4 | 48.7 | 49.7 | 49.7 | 53.4 |
| February | 34.9 | 43.7 | 32.3 | 37.1 | 33.4 | 39.7 |
| March | 36.2 | 38.2 | 24.2 | 28.2 | 28.2 | 32.3 |
| April | 33.6 | 37.6 | 25.8 | 27.1 | 28.7 | 30.2 |
| May | 36.5 | 36.6 | 27.7 | 27.6 | 30.3 | 31.0 |
| June | R32.0 | 35.3 | R28.6 | 26.9 | R29.7 | 29.5 |
| July | 32.5 | 36.4 | 27.6 | 28.2 | 28.9 | 31.2 |

R=Revised data.

Notes: • Sales for resale are those made to purchasers other than ultimate consumers. Sales to end users are those made directly to the ultimate consumer, including bulk customers such as agriculture, industry, and electric utilities, as well as commercial customers. • Geographic coverage is the 50 States and the District of Columbia. • Values for the current month are preliminary. • Prices prior to 1983 are Energy Information Administration estimates. See Note 6 at end of section.

Sources: Energy Information Administration, *Petroleum Marketing Monthly*, October 1991, Table 17.

# Table 9.6 Refiner Prices of Petroleum Products for Resale

(Cents per Gallon, Excluding Taxes)

| | Finished Motor Gasoline[a] | Finished Aviation Gasoline | Kerosene-Type Jet Fuel | Kerosene | No. 2 Fuel Oil | No. 2 Diesel Fuel | Propane (Consumer Grade) |
|---|---|---|---|---|---|---|---|
| **1978 Average** | **43.4** | **53.7** | **38.6** | **40.4** | **36.9** | **36.5** | **23.7** |
| **1979 Average** | **63.7** | **72.1** | **66.0** | **62.4** | **56.9** | **57.4** | **29.1** |
| **1980 Average** | **94.1** | **112.8** | **86.8** | **86.4** | **80.3** | **80.1** | **41.5** |
| **1981 Average** | **106.4** | **125.0** | **101.2** | **106.6** | **97.6** | **97.2** | **46.6** |
| **1982 Average** | **97.3** | **122.8** | **95.3** | **101.8** | **91.4** | **91.4** | **42.7** |
| **1983 Average** | **88.2** | **117.8** | **85.4** | **89.2** | **81.5** | **80.8** | **48.4** |
| **1984 Average** | **83.2** | **116.5** | **83.0** | **91.6** | **82.1** | **80.3** | **45.0** |
| **1985 Average** | **83.5** | **113.0** | **79.4** | **87.4** | **77.6** | **77.2** | **39.8** |
| **1986 Average** | **53.1** | **91.2** | **49.5** | **60.6** | **48.6** | **45.2** | **29.0** |
| **1987 Average** | **58.9** | **85.9** | **53.8** | **59.2** | **52.7** | **53.4** | **25.2** |
| **1988 Average** | **57.7** | **85.0** | **49.5** | **54.9** | **47.3** | **47.3** | **24.0** |
| 1989 January | 56.3 | 84.8 | 56.2 | 63.1 | 53.2 | 51.1 | 24.0 |
| February | 57.4 | 86.0 | 55.4 | 59.5 | 51.1 | 52.8 | 22.7 |
| March | 61.2 | 86.6 | 56.5 | 61.3 | 54.4 | 56.0 | 22.5 |
| April | 74.0 | 94.2 | 59.5 | 60.3 | 56.5 | 59.5 | 22.7 |
| May | 76.3 | 101.8 | 56.6 | 55.9 | 52.6 | 54.0 | 22.1 |
| June | 73.8 | 101.3 | 54.4 | 53.8 | 49.6 | 50.8 | 21.4 |
| July | 69.0 | 100.9 | 53.5 | 57.0 | 50.4 | 50.5 | 20.7 |
| August | 62.7 | 97.7 | 54.5 | 59.9 | 51.2 | 52.4 | 21.7 |
| September | 65.7 | 96.2 | 58.6 | 63.6 | 56.4 | 58.5 | 23.1 |
| October | 64.2 | 93.3 | 63.2 | 67.5 | 60.1 | 62.2 | 24.4 |
| November | 61.4 | 92.5 | 63.4 | 68.5 | 60.4 | 62.0 | 24.3 |
| December | 61.6 | 92.8 | 67.3 | 81.7 | 72.8 | 68.4 | 36.4 |
| **Average** | **65.4** | **95.0** | **58.3** | **66.9** | **56.5** | **56.7** | **24.7** |
| 1990 January | 69.2 | 96.8 | 77.0 | 87.0 | 73.8 | 69.3 | 54.5 |
| February | 67.2 | 95.0 | 66.9 | 67.9 | 57.7 | 57.1 | 34.0 |
| March | 66.3 | 93.8 | 61.7 | 64.8 | 57.9 | 57.7 | 27.1 |
| April | 69.7 | 96.4 | 59.9 | 62.4 | 57.5 | 57.5 | 25.2 |
| May | 72.6 | 97.4 | 57.4 | 59.2 | 54.5 | 55.4 | 24.0 |
| June | 72.2 | 99.6 | 54.8 | 53.9 | 49.4 | 50.5 | 24.9 |
| July | 70.6 | 100.2 | 56.0 | 57.1 | 51.9 | 52.0 | 27.3 |
| August | 85.6 | 110.4 | 71.3 | 80.7 | 72.1 | 73.7 | 36.3 |
| September | 95.0 | 122.3 | 93.2 | 100.4 | 85.2 | 87.3 | 43.6 |
| October | 98.6 | 127.9 | 114.4 | 115.6 | 95.0 | 99.4 | 53.5 |
| November | 95.4 | 126.2 | 107.0 | 106.5 | 90.7 | 93.6 | 50.5 |
| December | 80.3 | 116.1 | 90.1 | 92.6 | 80.9 | 79.8 | 44.7 |
| **Average** | **78.6** | **106.3** | **77.3** | **83.9** | **69.7** | **69.4** | **38.7** |
| 1991 January | 76.1 | 110.8 | 82.2 | 87.9 | 76.3 | 75.5 | 42.2 |
| February | 68.0 | 104.1 | 73.8 | 75.7 | 67.8 | 67.4 | 31.6 |
| March | 67.2 | 97.4 | 62.2 | 66.0 | 59.6 | 57.7 | 31.3 |
| April | 70.7 | 97.8 | 58.8 | 62.8 | 57.2 | 57.4 | 31.6 |
| May | 74.2 | 100.3 | 60.8 | 60.7 | 56.0 | 57.2 | 32.0 |
| June | 70.5 | 99.5 | 58.8 | R58.8 | 54.0 | 54.5 | 29.3 |
| July | 69.1 | 98.9 | 59.3 | 63.9 | 56.7 | 57.1 | 27.6 |

[a] See Note 5 at end of section.

R=Revised data.

Notes: • Sales for resale are those made to purchasers other than ultimate consumers. Sales to end users are those made directly to the ultimate consumer, including bulk customers such as agriculture, industry, and electric utilities, as well as residential and commercial customers. • Geographic coverage is the 50 States and the District of Columbia. • Values for the current month are preliminary. • Prices prior to 1983 are Energy Information Administration estimates. See Note 6 at end of section.

Sources: Energy Information Administration, *Petroleum Marketing Monthly*, October 1991, Table 4.

# Table 9.7 Refiner Prices of Petroleum Products to End Users

(Cents per Gallon, Excluding Taxes)

| | Finished Motor Gasoline[a] | Finished Aviation Gasoline | Kerosene-Type Jet Fuel | Kerosene | No. 2 Fuel Oil | No. 2 Diesel Fuel | Propane (Consumer Grade) |
|---|---|---|---|---|---|---|---|
| **1978 Average** | **48.4** | **51.6** | **38.7** | **42.1** | **40.0** | **37.7** | **33.5** |
| **1979 Average** | **71.3** | **68.9** | **54.7** | **58.5** | **51.6** | **58.5** | **35.7** |
| **1980 Average** | **103.5** | **108.4** | **86.8** | **90.2** | **78.8** | **81.8** | **48.2** |
| **1981 Average** | **114.7** | **130.3** | **102.4** | **112.3** | **91.4** | **99.5** | **56.5** |
| **1982 Average** | **106.0** | **131.2** | **96.3** | **108.9** | **90.5** | **94.2** | **59.2** |
| **1983 Average** | **95.4** | **125.5** | **87.8** | **96.1** | **91.6** | **82.6** | **70.9** |
| **1984 Average** | **90.7** | **123.4** | **84.2** | **103.6** | **91.6** | **82.3** | **73.7** |
| **1985 Average** | **91.2** | **120.1** | **79.6** | **103.0** | **84.9** | **78.9** | **71.7** |
| **1986 Average** | **62.4** | **101.1** | **52.9** | **79.0** | **56.0** | **47.8** | **74.5** |
| **1987 Average** | **66.9** | **90.7** | **54.3** | **77.0** | **58.1** | **55.1** | **70.1** |
| **1988 Average** | **67.3** | **89.1** | **51.3** | **73.8** | **54.4** | **50.0** | **71.4** |
| 1989 January | 65.6 | 89.2 | 56.2 | 71.4 | 56.7 | 53.5 | 65.6 |
| February | 66.1 | 89.7 | 57.0 | 72.2 | 55.6 | 54.3 | 66.8 |
| March | 68.4 | 90.6 | 57.9 | 67.6 | 57.1 | 57.0 | 63.8 |
| April | 81.7 | 99.1 | 60.6 | 66.2 | 59.2 | 61.0 | 55.9 |
| May | 85.5 | 107.0 | 58.1 | 59.7 | 54.8 | 57.1 | 55.4 |
| June | 84.5 | 107.1 | 56.2 | 53.9 | 50.3 | 53.4 | 49.0 |
| July | 82.0 | 105.5 | 54.7 | 55.3 | 51.9 | 53.1 | 54.9 |
| August | 76.6 | 101.9 | 55.1 | 58.0 | 52.7 | 53.7 | 57.4 |
| September | 74.9 | 100.7 | 58.9 | 66.8 | 57.3 | 59.5 | 59.0 |
| October | 74.7 | 100.4 | 63.8 | 73.6 | 61.7 | 63.7 | 59.9 |
| November | 72.7 | 98.6 | 64.4 | 77.7 | 62.6 | 64.5 | 58.4 |
| December | 72.1 | 97.3 | 68.1 | 90.0 | 76.0 | 71.3 | 74.4 |
| **Average** | **75.6** | **99.5** | **59.2** | **70.9** | **58.7** | **58.5** | **61.5** |
| 1990 January | 78.6 | 102.0 | 79.7 | 99.9 | 81.0 | 76.4 | 94.5 |
| February | 76.5 | 102.4 | 68.9 | 81.2 | 63.9 | 61.9 | 81.2 |
| March | 75.0 | 100.9 | 63.5 | 82.3 | 62.4 | 60.6 | 71.5 |
| April | 77.8 | 101.4 | 61.1 | 74.2 | 61.6 | 60.2 | 68.5 |
| May | 80.1 | 103.5 | 58.1 | 65.4 | 57.4 | 58.4 | 54.8 |
| June | 81.3 | 104.0 | 55.6 | 58.5 | 51.5 | 54.0 | 57.4 |
| July | 80.6 | 103.6 | 55.3 | 59.3 | 53.6 | 54.9 | 55.6 |
| August | 92.2 | 112.6 | 70.3 | 87.4 | 74.1 | 76.1 | 64.7 |
| September | 100.9 | 125.4 | 91.2 | 101.8 | 87.3 | 88.4 | 72.5 |
| October | 108.6 | 134.4 | 115.8 | 118.7 | 99.5 | 101.0 | 77.1 |
| November | 107.1 | 131.7 | 108.8 | 116.7 | 93.5 | 96.0 | 84.6 |
| December | 98.4 | 122.5 | 92.2 | 112.1 | 86.9 | 85.8 | 85.3 |
| **Average** | **88.2** | **111.9** | **76.7** | **90.2** | **73.2** | **72.5** | **74.7** |
| 1991 January | 88.7 | 112.1 | 81.6 | 105.0 | 84.5 | 80.4 | 86.6 |
| February | 79.6 | 106.4 | 73.7 | 93.5 | 75.3 | 71.3 | 81.3 |
| March | 74.1 | 101.3 | 62.1 | 88.8 | 64.8 | 61.7 | 76.0 |
| April | 77.1 | 101.1 | 58.7 | 73.8 | 61.6 | 60.6 | 69.8 |
| May | 82.1 | 105.3 | 60.1 | 69.3 | 58.9 | 60.1 | 66.0 |
| June | R81.9 | 105.2 | R59.3 | R62.3 | R56.3 | R57.9 | R62.1 |
| July | 79.0 | 103.6 | 59.7 | 65.3 | 59.1 | 59.5 | 61.6 |

[a] See Note 5 at end of section.

R=Revised data.

Notes: • Sales for resale are those made to purchasers other than ultimate consumers. Sales to end users are those made directly to the ultimate consumer, including bulk customers such as agriculture, industry, and electric utilities, as well as residential and commercial customers. • Geographic coverage is the 50 States and the District of Columbia. • Values for the current month are preliminary. • Prices prior to 1983 are Energy Information Administration estimates. See Note 6 at end of section.

Sources: Energy Information Administration, *Petroleum Marketing Monthly*, October 1991, Table 2.

# Table 9.8a No. 2 Distillate Prices to Residences: Northeastern States

(Cents per Gallon, Excluding Taxes)

| | Maine | New Hampshire | Vermont | Massachusetts | Rhode Island | Connecticut | New York | New Jersey | Pennsylvania |
|---|---|---|---|---|---|---|---|---|---|
| **1978 Average** | **48.6** | **50.3** | **50.8** | **48.8** | **50.7** | **50.1** | **50.1** | **49.6** | **48.8** |
| **1979 Average** | **68.8** | **72.5** | **72.5** | **70.9** | **72.8** | **72.0** | **71.2** | **71.0** | **69.8** |
| **1980 Average** | **96.3** | **100.4** | **101.5** | **97.8** | **101.1** | **98.3** | **98.2** | **97.9** | **96.4** |
| **1981 Average** | **120.4** | **123.7** | **125.4** | **121.3** | **123.8** | **121.7** | **123.2** | **121.5** | **118.1** |
| **1982 Average** | **115.5** | **117.4** | **120.1** | **117.6** | **120.1** | **118.3** | **120.5** | **117.4** | **113.7** |
| **1983 Average** | **102.8** | **104.1** | **112.9** | **109.1** | **110.5** | **109.1** | **112.1** | **107.9** | **105.8** |
| **1984 Average** | **103.9** | **108.4** | **111.9** | **111.6** | **111.4** | **112.1** | **115.5** | **111.0** | **107.9** |
| **1985 Average** | **99.7** | **102.4** | **107.7** | **107.0** | **106.7** | **108.0** | **111.3** | **105.9** | **102.3** |
| **1986 Average** | **74.4** | **75.9** | **86.6** | **82.1** | **82.8** | **89.0** | **91.1** | **90.2** | **81.4** |
| **1987 Average** | **74.7** | **76.5** | **81.1** | **80.6** | **82.5** | **83.4** | **85.2** | **84.3** | **76.9** |
| **1988 Average** | **77.7** | **78.2** | **82.6** | **82.1** | **83.6** | **85.3** | **86.3** | **84.8** | **77.8** |
| 1989 January | 85.6 | 83.0 | 86.0 | 87.1 | 87.5 | 88.4 | 91.0 | 87.3 | 81.6 |
| February | 87.4 | 83.8 | 86.9 | 86.3 | 88.3 | 88.7 | 92.2 | 87.0 | 82.2 |
| March | 88.3 | 84.8 | 87.8 | 88.1 | 90.0 | 89.8 | 93.4 | 88.9 | 83.2 |
| April | 87.4 | 83.2 | 87.5 | 87.8 | 89.9 | 89.4 | 93.8 | 87.8 | 83.2 |
| May | 81.0 | 83.1 | 86.4 | 86.8 | 88.8 | 88.1 | 92.9 | 87.2 | 82.2 |
| June | 73.5 | 79.5 | 84.3 | 83.4 | 87.6 | 85.6 | 92.0 | 83.0 | 77.6 |
| July | 72.1 | 77.8 | 82.9 | 81.1 | 85.4 | 84.9 | 90.9 | 82.3 | 74.1 |
| August | 70.0 | 78.2 | 82.0 | 81.1 | 84.1 | 84.6 | 90.1 | 80.1 | 72.6 |
| September | 74.6 | 79.4 | 82.6 | 84.9 | 86.5 | 85.2 | 86.6 | 81.8 | 74.2 |
| October | 82.7 | 83.2 | 85.3 | 88.5 | 90.3 | 88.9 | 91.0 | 87.3 | 78.9 |
| November | 86.7 | 87.5 | 86.1 | 91.1 | 92.3 | 90.3 | 93.7 | 89.7 | 81.6 |
| December | 106.0 | 112.1 | 109.8 | 115.2 | 114.0 | 112.5 | 113.0 | 108.5 | 103.1 |
| **Average** | **89.4** | **89.3** | **90.5** | **92.6** | **93.9** | **92.9** | **95.8** | **91.8** | **85.1** |
| 1990 January | 115.4 | 118.6 | 121.5 | 116.9 | 122.6 | 119.8 | 122.2 | 117.3 | 113.7 |
| February | 84.8 | 96.0 | 98.4 | 99.7 | 98.5 | 100.8 | 103.1 | 99.5 | 93.4 |
| March | 83.4 | 92.9 | 95.6 | 98.6 | 97.3 | 97.7 | 101.6 | 98.5 | 90.3 |
| April | 82.9 | 89.9 | 94.2 | 95.1 | 95.9 | 96.3 | 100.2 | 96.5 | 87.6 |
| May | 81.0 | 86.9 | 91.7 | 92.4 | 93.9 | 92.7 | 99.2 | 94.4 | 84.4 |
| June | 76.2 | 82.8 | 86.9 | 88.9 | 89.1 | 87.0 | 94.8 | 88.6 | 78.3 |
| July | 74.2 | 80.7 | 85.4 | 88.0 | 86.9 | 85.4 | 93.3 | 85.4 | 74.3 |
| August | 97.7 | 99.2 | 97.4 | 102.3 | 102.3 | 104.1 | 102.6 | 102.1 | 92.5 |
| September | 118.3 | 110.9 | 114.6 | 117.1 | 115.8 | 114.7 | 116.3 | 114.3 | 108.9 |
| October | 126.0 | 120.0 | 124.1 | 126.7 | 120.0 | 128.2 | 128.8 | 126.9 | 122.6 |
| November | 116.3 | 116.0 | 123.4 | 122.7 | 119.8 | 128.1 | 127.8 | 125.8 | 120.0 |
| December | 113.4 | 110.8 | 119.6 | 120.0 | 114.9 | 124.7 | 126.5 | 120.9 | 119.3 |
| **Average** | **98.4** | **102.9** | **107.0** | **108.3** | **108.5** | **109.7** | **112.4** | **108.6** | **102.5** |
| 1991 January | 114.4 | 107.2 | 117.5 | 117.2 | 112.9 | 122.6 | 123.7 | 119.7 | 117.7 |
| February | 105.9 | 100.7 | 111.3 | 111.3 | 109.5 | 116.0 | 119.7 | 113.3 | 110.9 |
| March | 95.4 | 90.5 | 104.0 | 102.7 | 101.6 | 109.0 | 112.8 | 104.3 | 101.8 |
| April | 87.1 | 83.9 | 98.3 | 96.1 | 94.6 | 101.4 | 106.7 | 97.6 | 95.5 |
| May | 81.9 | 79.4 | 93.5 | 91.7 | 89.7 | 96.5 | 101.1 | 93.5 | 89.9 |
| June | [R]79.4 | 77.3 | 91.3 | [R]88.9 | [R]87.1 | 92.7 | [R]97.9 | [R]90.3 | [R]85.7 |
| July | 82.2 | 77.9 | 88.1 | 88.4 | 88.3 | 90.1 | 93.9 | 88.4 | 80.8 |

See footnotes at end of Table 9.8c.

# Table 9.8b No. 2 Distillate Prices to Residences: Selected South Atlantic and Midwestern States

(Cents per Gallon, Excluding Taxes)

| | Delaware | District of Columbia | Maryland | Virginia | West Virginia | Ohio | Michigan | Indiana | Illinois | Wisconsin | Minnesota |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1978 Average** | **47.8** | **50.7** | **49.2** | **49.1** | **46.2** | **47.4** | **47.9** | **48.5** | **46.5** | **44.7** | **47.8** |
| **1979 Average** | **68.2** | **74.2** | **70.1** | **70.4** | **65.1** | **68.6** | **70.9** | **72.7** | **68.8** | **67.3** | **72.4** |
| **1980 Average** | **95.4** | **102.6** | **97.9** | **98.5** | **92.2** | **91.9** | **97.8** | **99.6** | **95.8** | **91.5** | **99.9** |
| **1981 Average** | **117.3** | **127.4** | **121.4** | **120.5** | **115.0** | **113.2** | **118.3** | **118.5** | **114.9** | **109.1** | **118.4** |
| **1982 Average** | **111.3** | **124.5** | **117.1** | **117.7** | **109.3** | **110.2** | **113.9** | **114.3** | **110.9** | **107.8** | **115.1** |
| **1983 Average** | **106.0** | **117.0** | **110.3** | **108.7** | **101.0** | **101.3** | **106.4** | **100.7** | **100.4** | **101.2** | **103.1** |
| **1984 Average** | **109.6** | **118.7** | **113.5** | **110.5** | **102.1** | **102.1** | **105.0** | **103.1** | **100.1** | **101.0** | **104.1** |
| **1985 Average** | **104.6** | **114.3** | **108.8** | **106.3** | **98.0** | **99.7** | **102.1** | **99.1** | **97.5** | **98.3** | **101.9** |
| **1986 Average** | **85.0** | **93.1** | **91.4** | **86.6** | **74.6** | **77.7** | **81.0** | **74.8** | **NA** | **75.6** | **79.2** |
| **1987 Average** | **79.3** | **91.8** | **86.6** | **79.5** | **76.4** | **74.7** | **77.5** | **75.4** | **79.8** | **75.1** | **74.6** |
| **1988 Average** | **80.1** | **91.6** | **87.0** | **80.5** | **74.2** | **74.7** | **77.5** | **75.4** | **77.6** | **73.9** | **73.5** |
| **1989** January | 82.4 | 94.0 | 88.1 | 82.6 | 75.8 | 77.5 | 78.8 | 77.8 | 76.6 | 73.9 | 75.3 |
| February | 81.8 | 95.1 | 88.8 | 82.3 | 76.2 | 76.7 | 79.3 | 77.0 | 75.8 | 74.0 | 75.7 |
| March | 82.9 | 96.0 | 89.4 | 82.5 | 76.7 | 77.5 | 80.1 | 77.6 | 76.6 | 75.6 | 77.1 |
| April | 84.8 | 95.4 | 90.3 | 82.1 | 77.0 | 79.4 | 81.5 | 79.7 | 79.8 | 76.3 | 82.3 |
| May | 83.4 | 92.1 | 89.6 | 81.5 | 77.4 | 78.5 | 81.2 | 78.1 | 78.5 | 78.0 | 82.1 |
| June | 80.3 | 92.0 | 88.4 | 79.6 | 80.9 | 79.3 | 80.1 | 76.5 | 77.0 | 78.0 | 81.0 |
| July | 79.0 | 90.7 | 86.5 | 78.4 | 78.1 | 79.4 | 80.3 | 77.0 | 74.5 | 75.7 | 80.8 |
| August | 78.8 | 90.1 | 85.7 | 77.9 | 73.6 | 78.1 | 79.1 | 76.5 | 78.4 | 75.4 | 79.4 |
| September | 78.8 | 91.4 | 83.1 | 79.7 | 79.3 | 77.5 | 82.9 | 80.1 | 77.5 | 76.5 | 80.7 |
| October | 82.4 | 92.0 | 88.2 | 84.0 | 81.7 | 78.4 | 86.4 | 83.3 | 81.9 | 79.5 | 82.5 |
| November | 86.1 | 94.7 | 91.1 | 86.0 | 83.1 | 78.8 | 88.2 | 84.0 | 82.8 | 82.2 | 86.1 |
| December | 111.6 | 110.8 | 110.6 | 105.2 | 100.0 | 97.2 | 102.2 | 98.6 | 93.9 | 97.5 | 95.6 |
| **Average** | **88.2** | **98.6** | **93.8** | **87.0** | **83.0** | **81.6** | **85.3** | **83.2** | **80.9** | **81.1** | **82.4** |
| **1990** January | 119.8 | 119.0 | 120.0 | 118.1 | 109.2 | 96.0 | 103.5 | 99.7 | 95.2 | 91.6 | 100.9 |
| February | 97.1 | 104.9 | 101.4 | 101.7 | 89.4 | 82.8 | 92.0 | 85.6 | 83.2 | 83.9 | 88.1 |
| March | 93.2 | 94.4 | 98.8 | 96.8 | 87.1 | 81.2 | 88.7 | 83.1 | 83.4 | 83.1 | 85.5 |
| April | 91.8 | 93.1 | 97.5 | 95.8 | 83.7 | 80.8 | 86.5 | 83.7 | 82.2 | 82.9 | 85.6 |
| May | 89.9 | 94.2 | 95.0 | 90.6 | 83.0 | 81.9 | 83.7 | 82.4 | 78.3 | 81.0 | 85.2 |
| June | 83.2 | 93.2 | 89.5 | 88.2 | 83.4 | 82.6 | 81.1 | 72.8 | 73.8 | 79.5 | 80.4 |
| July | 77.9 | 97.6 | 86.2 | 89.7 | 79.2 | 81.6 | 82.4 | 74.7 | 76.7 | 77.5 | 83.0 |
| August | 93.1 | 107.1 | 100.2 | 102.4 | 98.1 | 93.3 | 100.2 | 98.1 | 96.9 | 92.0 | 101.6 |
| September | 111.2 | 116.1 | 115.8 | 114.8 | 115.2 | 115.2 | 113.2 | 110.4 | NA | 107.0 | 111.7 |
| October | 122.3 | 134.9 | 130.6 | 128.3 | 124.4 | 120.9 | 123.9 | 123.3 | 117.8 | 117.1 | 121.7 |
| November | 118.8 | 134.3 | 130.4 | 126.1 | 121.7 | 117.0 | 121.0 | 119.1 | 113.1 | 114.8 | 119.7 |
| December | 113.7 | 128.4 | 125.3 | 122.8 | 112.9 | 111.8 | 113.5 | 111.4 | 105.0 | 108.3 | 111.1 |
| **Average** | **106.0** | **108.5** | **111.9** | **110.5** | **98.9** | **97.8** | **100.9** | **98.8** | **96.1** | **94.2** | **101.7** |
| **1991** January | 113.0 | 124.1 | 122.7 | 117.7 | 110.4 | 105.5 | 109.1 | 105.8 | 102.4 | 102.4 | 105.5 |
| February | 105.4 | 118.6 | 116.1 | 110.5 | 101.2 | 94.5 | 97.0 | 95.4 | 93.0 | 92.3 | 93.6 |
| March | 98.4 | 112.3 | 107.7 | 102.6 | 90.8 | 85.8 | 90.9 | 87.9 | 85.9 | 87.6 | 87.2 |
| April | 92.3 | 105.6 | 102.8 | 96.2 | 87.4 | 83.2 | 90.9 | 85.7 | 88.3 | 84.0 | 87.7 |
| May | 91.4 | 101.1 | 98.8 | 90.7 | 85.5 | 83.1 | 88.5 | 86.3 | 88.5 | 82.9 | 88.0 |
| June | 83.1 | 94.6 | [R]95.9 | [R]87.8 | [R]83.5 | 80.7 | [R]87.5 | [R]80.3 | [R]86.8 | [R]80.8 | 87.0 |
| July | 80.5 | 98.2 | 93.5 | 86.9 | 81.6 | 79.6 | 82.1 | 79.1 | 82.2 | 77.9 | 84.3 |

See footnotes at end of Table 9.8c.

# Table 9.8c No. 2 Distillate Prices to Residences: Selected Western States and U.S. Average

(Cents per Gallon, Excluding Taxes)

| | Idaho | Washington | Oregon | Alaska | U.S. Average |
|---|---|---|---|---|---|
| **1978 Average** | 43.6 | 48.6 | 45.8 | 53.2 | 49.0 |
| **1979 Average** | 62.1 | 69.7 | 68.0 | 68.2 | 70.4 |
| **1980 Average** | 91.6 | 100.8 | 97.3 | 97.8 | 97.4 |
| **1981 Average** | 110.4 | 116.5 | 111.4 | 118.0 | 119.4 |
| **1982 Average** | 110.4 | 117.6 | 111.6 | 117.4 | 116.0 |
| **1983 Average** | 101.8 | 109.0 | 103.6 | 108.8 | 107.8 |
| **1984 Average** | 98.5 | 102.6 | 99.3 | 106.9 | 109.1 |
| **1985 Average** | 97.2 | 101.1 | 97.1 | 108.3 | 105.3 |
| **1986 Average** | 73.8 | 77.5 | 70.4 | 94.9 | 83.6 |
| **1987 Average** | 68.8 | 79.5 | 72.5 | 86.5 | 80.3 |
| **1988 Average** | 68.8 | 78.5 | 70.9 | 86.9 | 81.3 |
| **1989** January | 68.1 | 76.9 | 66.3 | 86.7 | 84.9 |
| February | 71.5 | 86.0 | 76.7 | 90.9 | 85.5 |
| March | 78.3 | 92.8 | 84.2 | 96.0 | 87.1 |
| April | 85.8 | 94.2 | 87.3 | 99.5 | 87.8 |
| May | 83.5 | 87.3 | 79.6 | 100.1 | 86.6 |
| June | 80.3 | 77.6 | 74.9 | 101.5 | 84.1 |
| July | 77.3 | 74.7 | 71.1 | 105.8 | 82.1 |
| August | 77.2 | 78.2 | 71.2 | 101.6 | 81.5 |
| September | 80.3 | 83.9 | 81.5 | 96.0 | 81.5 |
| October | 82.2 | 91.7 | 86.4 | 97.8 | 85.6 |
| November | 84.9 | 93.4 | 86.4 | 97.9 | 88.3 |
| December | 84.5 | 93.1 | 86.1 | 98.1 | 107.6 |
| **Average** | 77.8 | 96.4 | 80.2 | 96.4 | 90.0 |
| **1990** January | 85.7 | 96.0 | 88.7 | 98.6 | 114.0 |
| February | 80.8 | 89.0 | 83.9 | 99.6 | 96.3 |
| March | 80.9 | 88.6 | 84.4 | 104.2 | 94.7 |
| April | 81.7 | 90.0 | 85.1 | 97.9 | 93.1 |
| May | 79.4 | 84.3 | 84.6 | 101.7 | 90.7 |
| June | 74.6 | 85.0 | 81.9 | 102.1 | 86.4 |
| July | 70.5 | 76.3 | 79.3 | 97.8 | 83.8 |
| August | 90.7 | 90.0 | 95.3 | 116.8 | 98.8 |
| September | 108.3 | 115.3 | 111.9 | 119.3 | 113.7 |
| October | 121.0 | 133.3 | 128.2 | 128.9 | 125.4 |
| November | 127.1 | 134.4 | 126.8 | 127.5 | 123.4 |
| December | 119.7 | 122.0 | 109.2 | 128.2 | 119.6 |
| **Average** | 97.4 | 102.7 | 97.0 | 112.6 | 106.2 |
| **1991** January | 110.8 | 118.4 | 108.3 | 129.3 | 116.8 |
| February | 97.3 | 112.0 | 102.9 | 122.8 | 110.3 |
| March | 84.1 | 95.3 | 89.4 | 109.5 | 102.6 |
| April | 83.5 | 94.0 | 86.4 | 101.9 | 96.9 |
| May | 84.4 | 94.9 | 86.5 | 101.3 | 92.5 |
| June | R83.4 | 91.7 | 85.6 | 98.2 | R89.3 |
| July | 79.8 | 85.4 | 84.5 | 98.6 | 86.6 |

R=Revised data.

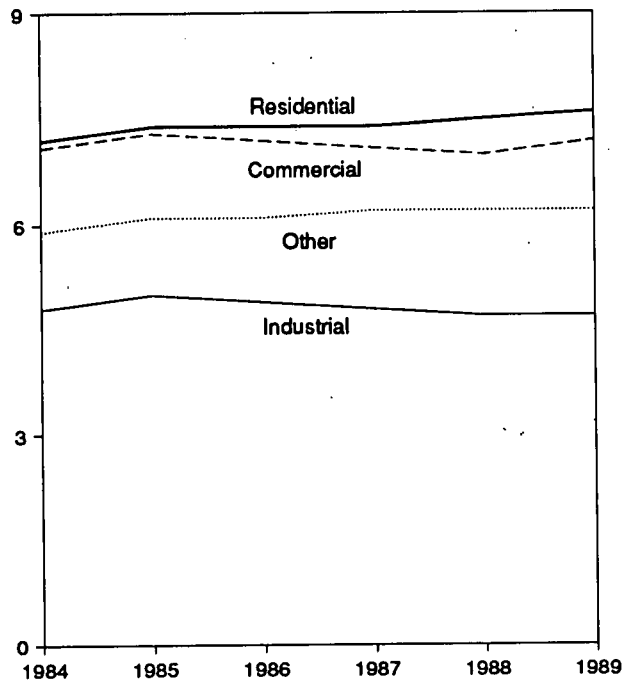
Notes: • States are grouped in Tables 9.8a, 9.8b, and 9.8c by geographic region of the country. • Values for the current month are preliminary. • Prices prior to 1983 are Energy Information Administration estimates. See Note 6 at end of section.

Sources: Energy Information Administration, *Petroleum Marketing Monthly*, October 1991, Table 16.

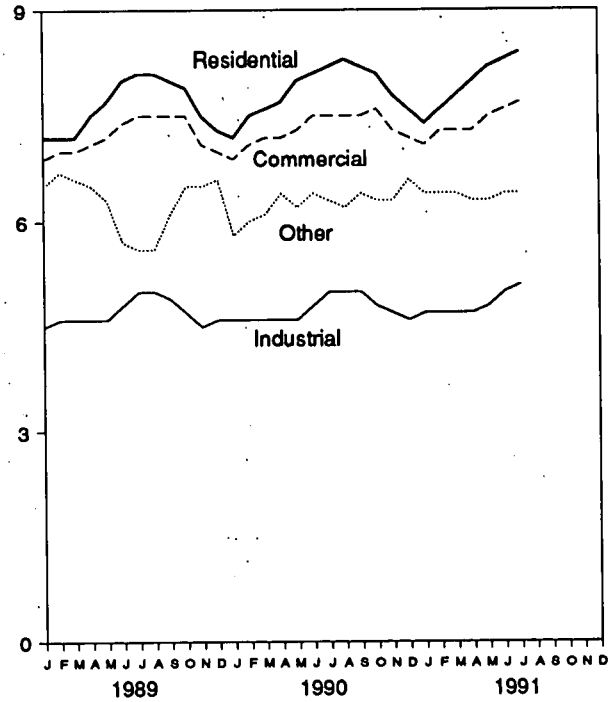
## Figure 9.2 Electricity Retail Prices

(Cents per Kilowatthour)

Prices by Sector, 1984-1989




Prices by Sector, Monthly

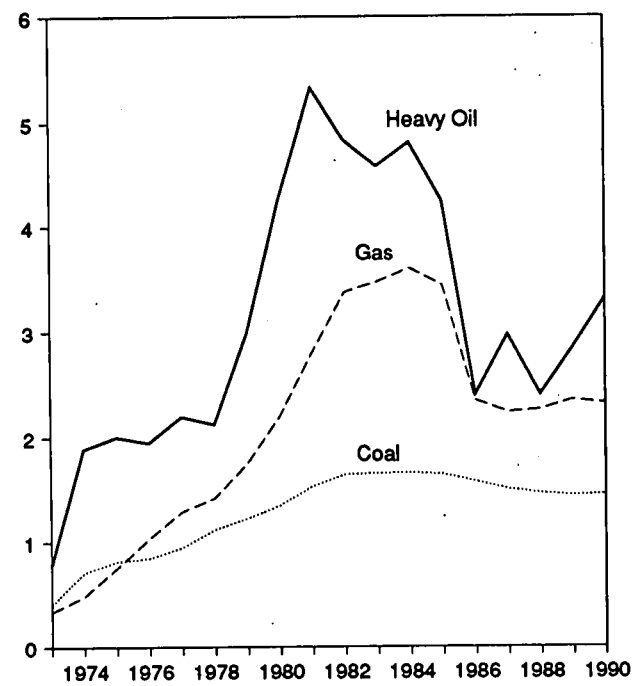



Source: Table 9.9.

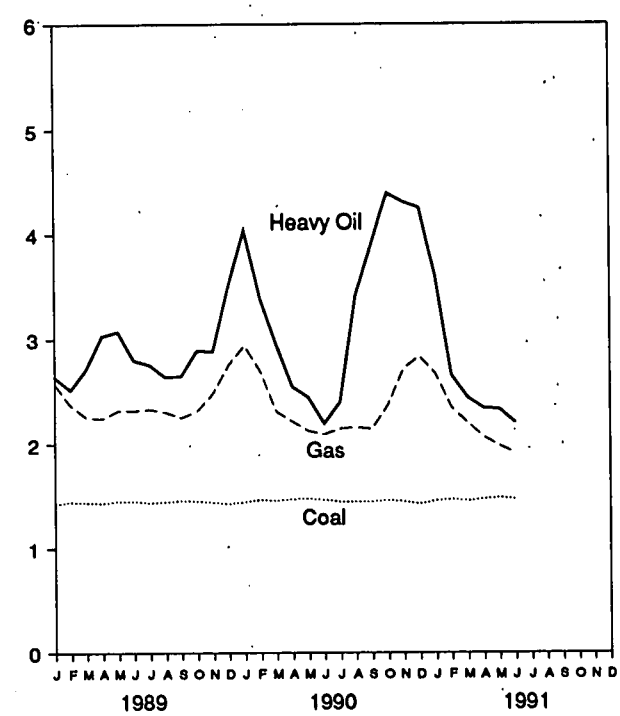
## Figure 9.3 Cost of Fossil-Fuel Receipts at Steam-Electric Plants

(Dollars per Million Btu)

Fossil Fuels Costs, 1973-1990




Fossil Fuel Costs, Monthly




Source: Table 9.10.

# Table 9.9 Electricity Retail Prices

(Cents per Kilowatthour)

| | Residential | | Commercial | | Industrial | | Other[a] | | Total[b] | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Monthly Series[c] | Annual Series | Monthly Series[c] | Annual Series | Monthly Series[c] | Annual Series | Monthly Series[c] | Annual Series | Monthly Series[c] | Annual Series |
| **1973 Average** | 2.5 | NA | 2.4 | NA | 1.3 | NA | 2.1 | NA | 2.0 | NA |
| **1974 Average** | 3.1 | NA | 3.0 | NA | 1.7 | NA | 2.8 | NA | 2.5 | NA |
| **1975 Average** | 3.5 | NA | 3.5 | NA | 2.1 | NA | 3.1 | NA | 2.9 | NA |
| **1976 Average** | 3.7 | NA | 3.7 | NA | 2.2 | NA | 3.3 | NA | 3.1 | NA |
| **1977 Average** | 4.1 | NA | 4.1 | NA | 2.5 | NA | 3.5 | NA | 3.4 | NA |
| **1978 Average** | 4.3 | NA | 4.4 | NA | 2.8 | NA | 3.6 | NA | 3.7 | NA |
| **1979 Average** | 4.6 | NA | 4.7 | NA | 3.1 | NA | 4.0 | NA | 4.0 | NA |
| **1980 Average** | 5.4 | NA | 5.5 | NA | 3.7 | NA | 4.8 | NA | 4.7 | NA |
| **1981 Average** | 6.2 | NA | 6.3 | NA | 4.3 | NA | 5.3 | NA | 5.5 | NA |
| **1982 Average** | 6.9 | NA | 6.9 | NA | 5.0 | NA | 5.9 | NA | 6.1 | NA |
| **1983 Average** | 7.2 | NA | 7.0 | NA | 5.0 | NA | 6.4 | NA | 6.3 | NA |
| **1984 Average** | 7.5 | 7.2 | 7.3 | 7.1 | 5.0 | 4.8 | 6.8 | 5.9 | 6.5 | 6.3 |
| **1985 Average** | 7.8 | 7.4 | 7.5 | 7.3 | 5.2 | 5.0 | 7.0 | 6.1 | 6.7 | 6.4 |
| **1986 Average** | 7.4 | 7.4 | 7.1 | 7.2 | 4.9 | 4.9 | 6.6 | 6.1 | 6.4 | 6.4 |
| **1987 Average** | 7.4 | 7.4 | 7.0 | 7.1 | 4.7 | 4.8 | 6.6 | 6.2 | 6.3 | 6.4 |
| **1988 Average** | 7.5 | 7.5 | 7.1 | 7.0 | 4.6 | 4.7 | 6.0 | 6.2 | 6.3 | 6.4 |
| **1989** January | 7.2 | – | 6.9 | – | 4.5 | – | 6.5 | – | 6.2 | – |
| February | 7.2 | – | 7.0 | – | 4.6 | – | 6.7 | – | 6.2 | – |
| March | 7.2 | – | 7.0 | – | 4.6 | – | 6.6 | – | 6.2 | – |
| April | 7.5 | – | 7.1 | – | 4.6 | – | 6.5 | – | 6.3 | – |
| May | 7.7 | – | 7.2 | – | 4.6 | – | 6.3 | – | 6.3 | – |
| June | 8.0 | – | 7.4 | – | 4.8 | – | 5.7 | – | 6.6 | – |
| July | 8.1 | – | 7.5 | – | 5.0 | – | 5.6 | – | 6.8 | – |
| August | 8.1 | – | 7.5 | – | 5.0 | – | 5.6 | – | 6.8 | – |
| September | 8.0 | – | 7.5 | – | 4.9 | – | 6.1 | – | 6.7 | – |
| October | 7.9 | – | 7.5 | – | 4.7 | – | 6.5 | – | 6.5 | – |
| November | 7.5 | – | 7.1 | – | 4.5 | – | 6.5 | – | 6.2 | – |
| December | 7.3 | – | 7.0 | – | 4.6 | – | 6.6 | – | 6.3 | – |
| **Average** | 7.6 | 7.6 | 7.2 | 7.2 | 4.7 | 4.7 | 6.2 | 6.2 | 6.4 | 6.5 |
| **1990** January | 7.2 | – | 6.9 | – | 4.6 | – | 5.8 | – | 6.3 | – |
| February | 7.5 | – | 7.1 | – | 4.6 | – | 6.0 | – | 6.3 | – |
| March | 7.6 | – | 7.2 | – | 4.6 | – | 6.1 | – | 6.4 | – |
| April | 7.7 | – | 7.2 | – | 4.6 | – | 6.4 | – | 6.4 | – |
| May | 8.0 | – | 7.3 | – | 4.6 | – | 6.2 | – | 6.5 | – |
| June | 8.1 | – | 7.5 | – | 4.8 | – | 6.4 | – | 6.7 | – |
| July | 8.2 | – | 7.5 | – | 5.0 | – | 6.3 | – | 6.9 | – |
| August | 8.3 | – | 7.5 | – | 5.0 | – | 6.2 | – | 6.9 | – |
| September | 8.2 | – | 7.5 | – | 5.0 | – | 6.4 | – | 6.9 | – |
| October | 8.1 | – | 7.6 | – | 4.8 | – | 6.3 | – | 6.7 | – |
| November | 7.8 | – | 7.3 | – | 4.7 | – | 6.3 | – | 6.5 | – |
| December | 7.6 | – | 7.2 | – | 4.6 | – | 6.6 | – | 6.4 | – |
| **Average** | 7.8 | NA | 7.3 | NA | 4.8 | NA | 6.2 | NA | 6.6 | NA |
| **1991** January | 7.4 | – | 7.1 | – | 4.7 | – | 6.4 | – | 6.4 | – |
| February | 7.6 | – | 7.3 | – | 4.7 | – | 6.4 | – | 6.5 | – |
| March | 7.8 | – | 7.3 | – | 4.7 | – | 6.4 | – | 6.6 | – |
| April | 8.0 | – | 7.3 | – | 4.7 | – | 6.3 | – | 6.5 | – |
| May | 8.2 | – | 7.5 | – | 4.8 | – | 6.3 | – | 6.7 | – |
| June | 8.3 | – | 7.6 | – | 5.0 | – | 6.4 | – | 6.9 | – |
| July | 8.4 | – | 7.7 | – | 5.1 | – | 6.4 | – | 7.1 | – |
| **7-Month Average** | 8.0 | – | 7.4 | – | 4.8 | – | 6.4 | – | 6.7 | – |
| **1990 7-Month Average** | 7.7 | – | 7.3 | – | 4.7 | – | 6.2 | – | 6.5 | – |
| **1989 7-Month Average** | 7.6 | – | 7.2 | – | 4.7 | – | 6.2 | – | 6.4 | – |

[a] Other is public street and highway lighting, other sales to public authorities, sales to railroads and railways, and interdepartmental sales.

[b] Average price for total sales to ultimate consumers.

[c] Annual values are the sum of the monthly revenue divided by the sum of the monthly sales. Data through 1979 cover privately owned electric utilities in Classes A and B. Data for 1980-1985 cover selected privately owned electric utilities in Class A whose electric operating revenue was $100 million or more during the previous year. See Note 7 at end of section.

NA=Not available. – =Not applicable.

Notes: • Prices are calculated by dividing revenue by sales. Revenue may not correspond to sales for a particular month because of electric utility billing and accounting procedures. That lack of correspondence could result in uncharacteristic increases or decreases in the monthly prices. See Note 7 at end of section. • Geographic coverage is the 50 States and the District of Columbia.

Sources: **Monthly Series:** 1973-September 1977: Federal Power Commission, Form FPC-5, "Monthly Statement of Electric Operating Revenue and Income"; October 1977-February 1980: Federal Energy Regulatory Commission (FERC), Form FERC-5, "Electric Operating Revenue and Income"; March 1980-December 1980: FERC, Form FERC-5, "Electric Utility Company Monthly Statement"; 1981 forward: Energy Information Administration (EIA), *Electric Power Monthly*, October 1991, Table 59. **Annual Series:** EIA, *Electric Power Monthly*, October 1991, Table 59.

# Table 9.10 Quantity and Cost of Fossil-Fuel Receipts at Steam-Electric Utility Plants

| | Coal | | Petroleum | | | | Gas[a] | | All Fossil Fuels[b] |
|---|---|---|---|---|---|---|---|---|---|
| | | | Heavy Oil[b] | | Total[b,c] | | | | |
| | Quantity (thousand short tons) | Cost (cents per million Btu) | Quantity (thousand barrels) | Cost (cents per million Btu) | Quantity (thousand barrels) | Cost (cents per million Btu) | Quantity (million cubic feet) | Cost (cents per million Btu) | Cost (cents per million Btu) |
| **1973 Year** | **374,842** | **40.5** | **512,650** | **78.5** | **535,859** | **80.0** | **3,382,677** | **33.8** | **47.6** |
| **1974 Year** | **384,868** | **70.9** | **479,166** | **189.0** | **515,217** | **191.0** | **3,225,203** | **48.2** | **91.4** |
| **1975 Year** | **431,527** | **81.4** | **457,582** | **200.5** | **510,352** | **202.3** | **3,034,808** | **75.2** | **104.4** |
| **1976 Year** | **454,858** | **84.8** | **495,363** | **195.2** | **549,973** | **199.0** | **2,962,811** | **103.4** | **111.9** |
| **1977 Year** | **490,415** | **94.7** | **563,685** | **219.8** | **635,556** | **224.9** | **3,106,403** | **129.1** | **129.7** |
| **1978 Year** | **476,169** | **111.6** | **546,197** | **212.5** | **616,040** | **219.1** | **3,140,654** | **142.2** | **141.1** |
| **1979 Year** | **556,558** | **122.4** | **479,705** | **298.8** | **515,695** | **307.2** | **3,368,976** | **174.9** | **163.9** |
| **1980 Year** | **593,995** | **135.1** | **394,159** | **426.7** | **419,140** | **435.1** | **3,588,814** | **219.9** | **192.8** |
| **1981 Year** | **579,374** | **153.2** | **327,477** | **533.4** | **345,544** | **542.5** | **3,573,558** | **280.5** | **225.6** |
| **1982 Year** | **601,427** | **164.7** | **228,200** | **483.2** | **239,111** | **492.2** | **3,161,348** | **337.6** | **224.9** |
| **1983 Year** | **592,728** | **165.6** | **211,705** | **457.8** | **219,652** | **462.8** | **2,732,248** | **347.4** | **220.6** |
| **1984 Year** | **684,111** | **166.4** | **193,832** | **481.2** | **202,372** | **486.3** | **2,878,808** | **360.3** | **219.1** |
| **1985 Year** | **666,743** | **164.8** | **156,410** | **424.4** | **164,947** | **431.7** | **2,808,921** | **344.4** | **209.4** |
| **1986 Year** | **686,964** | **157.9** | **220,585** | **240.1** | **228,522** | **243.7** | **2,387,622** | **235.1** | **175.0** |
| **1987 Year** | **721,298** | **150.6** | **187,300** | **297.6** | **194,578** | **301.1** | **2,605,191** | **224.0** | **170.6** |
| **1988 Year** | **727,775** | **146.6** | **230,234** | **240.5** | **236,924** | **243.9** | **2,362,721** | **226.3** | **164.3** |
| **1989** January | 62,443 | 142.7 | 25,855 | 264.1 | 26,516 | 267.4 | 124,572 | 257.5 | 164.8 |
| February | 56,634 | 145.0 | 20,489 | 251.9 | 21,179 | 256.0 | 150,950 | 237.2 | 164.6 |
| March | 63,218 | 144.4 | 22,427 | 271.8 | 23,199 | 276.0 | 180,668 | 225.7 | 165.0 |
| April | 62,076 | 143.6 | 19,831 | 303.0 | 20,292 | 305.6 | 207,401 | 224.6 | 166.7 |
| May | 64,796 | 145.3 | 20,569 | 307.2 | 21,211 | 310.1 | 226,859 | 232.0 | 169.7 |
| June | 61,272 | 145.5 | 18,677 | 279.9 | 19,354 | 283.5 | 234,010 | 232.1 | 168.5 |
| July | 55,429 | 144.1 | 19,778 | 275.6 | 20,364 | 278.6 | 285,117 | 233.3 | 172.2 |
| August | 70,147 | 144.7 | 19,701 | 264.2 | 20,563 | 268.9 | 282,481 | 230.6 | 166.6 |
| September | 64,539 | 146.0 | 14,967 | 264.8 | 15,609 | 270.6 | 239,696 | 225.4 | 164.9 |
| October | 66,578 | 145.4 | 15,779 | 289.1 | 16,495 | 295.6 | 230,629 | 231.6 | 166.1 |
| November | 65,570 | 144.2 | 16,862 | 288.0 | 17,602 | 294.5 | 162,361 | 248.1 | 164.9 |
| December | 60,515 | 142.8 | 22,734 | 350.2 | 24,040 | 359.0 | 147,763 | 275.4 | 176.7 |
| **Average** | **753,217** | **144.5** | **237,668** | **284.6** | **246,422** | **289.3** | **2,472,506** | **235.5** | **167.5** |
| **1990** January | 67,636 | 144.6 | 26,481 | 403.9 | 27,415 | 409.6 | 126,806 | 293.8 | 182.3 |
| February | 62,296 | 146.6 | 19,190 | 338.2 | 19,683 | 340.7 | 113,552 | 269.3 | 171.2 |
| March | 67,536 | 145.7 | 15,023 | 295.2 | 15,494 | 299.3 | 166,055 | 231.0 | 163.1 |
| April | 63,888 | 147.3 | 13,521 | 254.7 | 13,977 | 260.4 | 181,153 | 221.7 | 162.1 |
| May | 64,958 | 147.8 | 15,000 | 244.7 | 15,534 | 250.6 | 220,420 | 212.5 | 162.4 |
| June | 63,649 | 146.6 | 18,068 | 219.4 | 18,612 | 224.1 | 267,995 | 209.3 | 161.9 |
| July | 63,427 | 144.6 | 22,149 | 239.9 | 22,783 | 243.8 | 294,671 | 214.6 | 164.8 |
| August | 70,571 | 144.5 | 18,773 | 341.1 | 19,321 | 346.2 | 304,429 | 215.9 | 169.1 |
| September | 65,715 | 144.7 | 13,520 | 389.9 | 14,038 | 397.8 | 269,002 | 214.3 | 168.6 |
| October | 69,170 | 146.2 | 13,254 | 438.8 | 13,969 | 452.4 | 225,855 | 236.8 | 173.2 |
| November | 65,393 | 144.8 | 13,378 | 430.1 | 13,900 | 439.0 | 164,781 | 271.9 | 174.0 |
| December | 62,386 | 142.4 | 13,923 | 424.7 | 14,625 | 434.0 | 156,262 | 283.1 | 174.3 |
| **Average** | **786,627** | **145.5** | **202,281** | **331.9** | **209,350** | **338.4** | **2,490,979** | **232.1** | **168.9** |
| **1991** January | 63,356 | 145.7 | 11,478 | 359.5 | 12,325 | 373.8 | 164,872 | 266.8 | 170.2 |
| February | 61,059 | 146.9 | 10,417 | 265.6 | 10,887 | 275.7 | 137,559 | 234.7 | 161.3 |
| March | 63,537 | 145.4 | 11,269 | 244.2 | 11,667 | 251.2 | 182,833 | 220.0 | 159.2 |
| April | 60,747 | 147.3 | 13,119 | 234.2 | 13,468 | 239.5 | 203,862 | 206.7 | 160.3 |
| May | 63,005 | 148.3 | 14,730 | 233.1 | 15,276 | 240.1 | 233,424 | 198.2 | 160.8 |
| June | 61,488 | 147.2 | 17,122 | 220.2 | 17,671 | 226.1 | 244,415 | 191.2 | 159.3 |
| **6 Months** | **373,192** | **146.8** | **78,135** | **254.9** | **81,294** | **263.4** | **1,166,965** | **215.6** | **161.8** |
| **1990 6 Months** | **389,965** | **146.4** | **107,283** | **304.4** | **110,715** | **309.2** | **1,075,980** | **231.6** | **167.2** |
| **1989 6 Months** | **370,439** | **144.4** | **127,848** | **278.8** | **131,749** | **282.2** | **1,124,459** | **233.2** | **166.6** |

[a] Includes supplemental gaseous fuels.

[b] Heavy fuel oil includes fuel oils No. 4, No. 5, and No. 6 and topped crude oil. The weighted averages for petroleum and all fossil fuels include both heavy and light oil (No. 2 fuel oil, kerosene, and jet fuel) prices. Data do not include petroleum coke.

[c] Data for 1973-1982 do not include small quantities of rerefined motor oil, bunker oil, and liquefied petroleum gas.

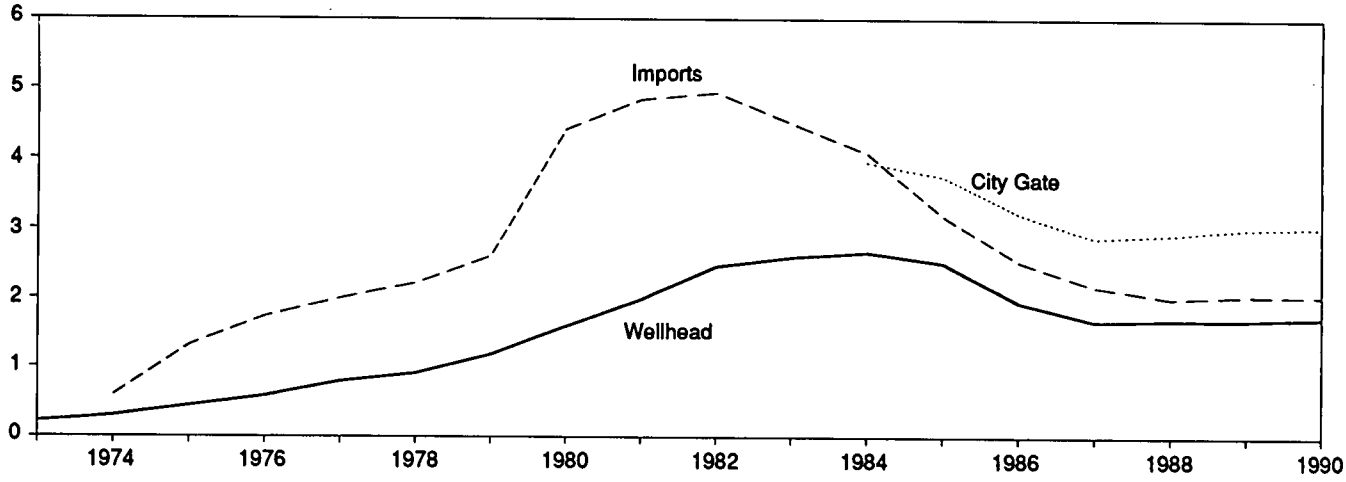
Notes: • Data for 1973-1982 cover all electric generating plants at which the generator nameplate capacity of all steam-electric units combined totaled 25 megawatts or greater. From 1974-1982, peaking units were included in the data and counted towards the 25-megawatt-or-greater total. Data for 1983-1990 cover all electric generating plants at which the generator nameplate capacity of all steam-electric units combined totaled 50 megawatts or greater. Data for 1991 forward cover all electric generating plants at which the generator nameplate capacity of all steam-electric units and combined-cycle units combined totaled 50 megawatts or greater. • Geographic coverage is the 50 States and the District of Columbia.

Sources: **1973-1979:** Annual data for quantity are simple sums of unrounded monthly values and for cost are averages of monthly values, weighted by quantities, from the following —1973-May 1977, Federal Power Commission, Form FPC-423, "Monthly Report on Cost and Quality of Fuels for Electric Utility Plants." June 1977-December 1977, Federal Energy Regulatory Commission, Form FERC-423, "Monthly Report on Cost and Quality of Fuels for Electric Utility Plants." 1978-1980, Energy Information Administration (EIA), Form FERC-423, "Monthly Report on Cost and Quality of Fuels for Electric Utility Plants." **1980 forward:** EIA, *Electric Power Monthly*, October 1991, Table 33.

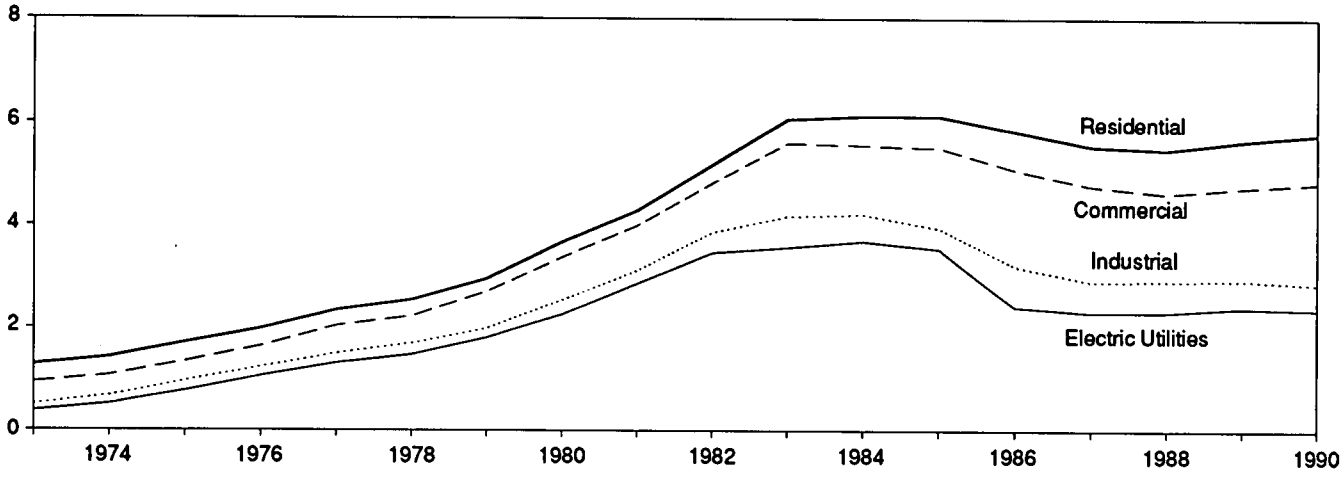
## Figure 9.4 Natural Gas Prices

(Dollars per Thousand Cubic Feet)

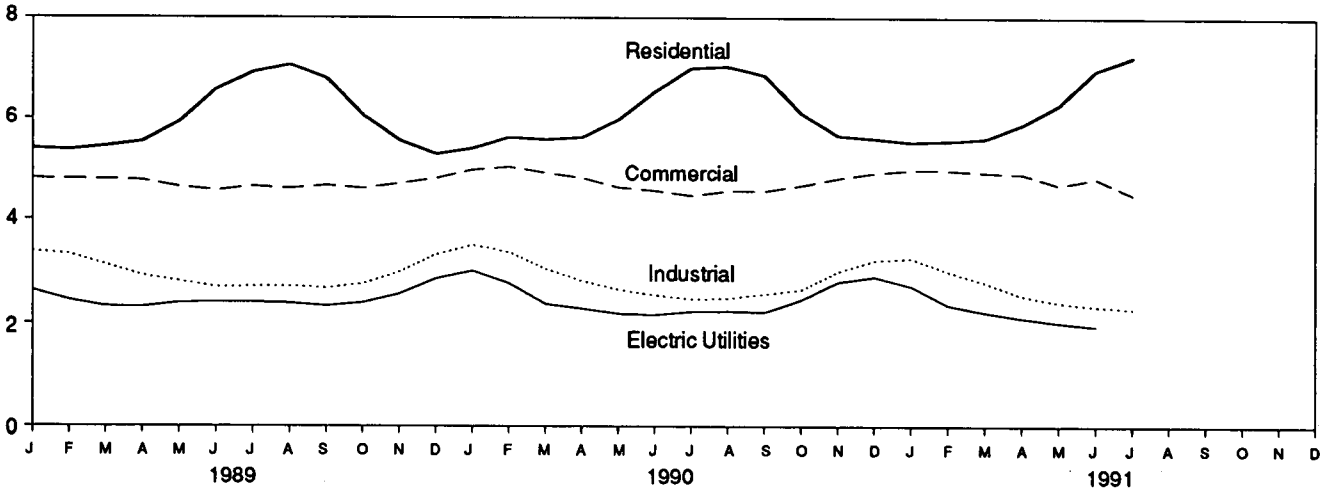
### Selected Prices, 1973-1990




### Delivered to Consumers, 1973-1990




### Delivered to Consumers, Monthly




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 9.11.

# Table 9.11 Natural Gas Prices

(Dollars per Thousand Cubic Feet)

| | Wellhead | Major Interstate Pipeline Companies | | City Gate | Delivered to Consumers[a,b] | | | |
|---|---|---|---|---|---|---|---|---|
| | | Imports | Purchases from Producers | | Residential | Commercial | Industrial | Electric Utilities[b] |
| **1973 Average** | **0.22** | **NA** | **NA** | **NA** | **1.29** | **0.94** | **0.50** | **0.38** |
| **1974 Average** | **.30** | **.59** | **.27** | **NA** | **1.43** | **1.07** | **.67** | **.51** |
| **1975 Average** | **.44** | **1.31** | **.37** | **NA** | **1.71** | **1.35** | **.96** | **.77** |
| **1976 Average** | **.58** | **1.73** | **.48** | **NA** | **1.98** | **1.64** | **1.24** | **1.06** |
| **1977 Average** | **.79** | **1.99** | **.70** | **NA** | **2.35** | **2.04** | **1.50** | **1.32** |
| **1978 Average** | **.91** | **2.21** | **.83** | **NA** | **2.56** | **2.23** | **1.70** | **1.48** |
| **1979 Average** | **1.18** | **2.60** | **1.22** | **NA** | **2.98** | **2.73** | **1.99** | **1.81** |
| **1980 Average** | **1.59** | **4.42** | **1.63** | **NA** | **3.68** | **3.39** | **2.56** | **2.27** |
| **1981 Average** | **1.98** | **4.84** | **2.15** | **NA** | **4.29** | **4.00** | **3.14** | **2.89** |
| **1982 Average** | **2.46** | **4.94** | **2.72** | **NA** | **5.17** | **4.82** | **3.87** | **3.48** |
| **1983 Average** | **2.59** | **4.51** | **2.93** | **NA** | **6.06** | **5.59** | **4.18** | **3.58** |
| **1984 Average** | **2.66** | **4.08** | **2.91** | **3.95** | **6.12** | **5.55** | **4.22** | **3.70** |
| **1985 Average** | **2.51** | **3.19** | **2.85** | **3.75** | **6.12** | **5.50** | **3.95** | **3.55** |
| **1986 Average** | **1.94** | **2.53** | **2.39** | **3.22** | **5.83** | **5.08** | **3.23** | **2.43** |
| **1987 Average** | **1.67** | **2.17** | **2.10** | **2.87** | **5.54** | **4.77** | **2.94** | **2.32** |
| **1988 Average** | **1.69** | **2.00** | **2.13** | **2.92** | **5.47** | **4.63** | **2.95** | **2.33** |
| 1989 January | 1.99 | 1.77 | 2.35 | 3.17 | 5.41 | 4.81 | 3.39 | 2.63 |
| February | 1.81 | 2.20 | 2.16 | 3.10 | 5.38 | 4.80 | 3.33 | 2.44 |
| March | 1.69 | 1.99 | 2.14 | 2.89 | 5.45 | 4.79 | 3.12 | 2.32 |
| April | 1.56 | 2.01 | 2.19 | 2.83 | 5.54 | 4.77 | 2.91 | 2.31 |
| May | 1.61 | 2.00 | 2.11 | 2.94 | 5.93 | 4.64 | 2.80 | 2.39 |
| June | 1.65 | 2.04 | 2.05 | 2.98 | 6.58 | 4.57 | 2.69 | 2.40 |
| July | 1.65 | 1.88 | 2.00 | 3.08 | 6.92 | 4.65 | 2.70 | 2.40 |
| August | 1.61 | 2.27 | 2.11 | 3.04 | 7.07 | 4.61 | 2.71 | 2.38 |
| September | 1.55 | 2.02 | 2.08 | 2.99 | 6.80 | 4.67 | 2.67 | 2.33 |
| October | 1.58 | 2.17 | 2.13 | 2.84 | 6.06 | 4.61 | 2.75 | 2.39 |
| November | 1.66 | 2.13 | 2.23 | 2.98 | 5.56 | 4.71 | 2.98 | 2.56 |
| December | 1.92 | 2.08 | 2.39 | 3.10 | 5.30 | 4.81 | 3.32 | 2.85 |
| **Average** | **1.69** | **2.04** | **2.18** | **3.01** | **5.64** | **4.74** | **2.97** | **2.42** |
| 1990 January | 2.22 | 2.04 | 2.42 | 3.24 | 5.41 | 4.98 | 3.50 | 3.00 |
| February | 1.85 | 2.25 | 2.17 | 3.10 | 5.62 | R5.04 | 3.37 | 2.76 |
| March | 1.56 | 1.99 | 1.94 | 2.94 | 5.58 | R4.92 | 3.04 | 2.37 |
| April | 1.50 | 2.00 | 2.17 | 2.83 | 5.62 | 4.82 | 2.81 | 2.28 |
| May | 1.47 | 2.08 | 1.98 | 2.81 | 5.98 | 4.63 | 2.64 | 2.18 |
| June | 1.49 | 1.91 | 2.18 | 3.00 | 6.54 | 4.57 | 2.54 | 2.16 |
| July | 1.50 | 1.88 | 2.00 | 3.03 | 7.01 | R4.47 | 2.46 | 2.22 |
| August | 1.51 | 1.93 | 1.86 | 2.91 | 7.04 | 4.56 | 2.48 | 2.23 |
| September | 1.57 | 1.89 | 1.93 | 2.92 | 6.86 | 4.56 | 2.56 | 2.21 |
| October | 1.79 | 1.90 | 2.18 | 2.81 | 6.11 | 4.67 | 2.64 | 2.45 |
| November | 1.99 | 2.21 | 2.45 | 3.14 | 5.66 | 4.81 | 2.99 | 2.79 |
| December | 2.07 | 2.27 | 2.58 | 3.19 | R5.60 | 4.92 | 3.21 | 2.89 |
| **Average** | **1.72** | **2.03** | **2.19** | **3.03** | **5.77** | **4.83** | **2.89** | **2.38** |
| 1991 January | 1.95 | 2.24 | 2.23 | 3.08 | 5.53 | 4.98 | 3.25 | 2.71 |
| February | 1.57 | 2.12 | 1.98 | 2.94 | 5.55 | 4.97 | R2.99 | 2.35 |
| March | 1.46 | 1.94 | 2.06 | 2.79 | 5.60 | 4.93 | R2.78 | 2.21 |
| April | 1.47 | 2.05 | 1.91 | 2.75 | 5.88 | 4.90 | R2.53 | 2.10 |
| May | 1.42 | 2.00 | 2.04 | 2.77 | 6.28 | R4.68 | R2.40 | 2.01 |
| June | 1.39 | 2.05 | 1.98 | R2.85 | R6.97 | R4.81 | 2.33 | 1.94 |
| July | NA | 2.13 | 1.87 | 2.76 | 7.23 | 4.49 | 2.28 | NA |
| **7-Month Average** | **NA** | **2.08** | **2.01** | **2.88** | **5.79** | **4.89** | **2.69** | **NA** |
| **1990 7-Month Average** | **1.66** | **2.02** | **2.12** | **3.02** | **5.70** | **4.86** | **2.96** | **2.35** |
| **1989 7-Month Average** | **1.71** | **1.98** | **2.14** | **3.01** | **5.59** | **4.76** | **3.02** | **2.40** |

[a] Includes supplemental gaseous fuels.
[b] See Note 8 at end of section.
R=Revised data. NA=Not available.

Notes: • Prices shown on this page are intended to include all taxes. See Note 8 at end of section. • Geographic coverage is the 50 States and the District of Columbia. • Data through 1988 are final. Subsequent data are preliminary. • Wellhead annual and year-to-date prices are simple averages of the monthly prices; all other annual and year-to-date prices are volume-weighted averages of the monthly prices.

Sources: **1973-1983:** Wellhead: Energy Information Administration (EIA), *Natural Gas Annual 1988, Volume 1*, Table 92. Major Interstate Pipeline Companies, 1974 through 1977: Calculated from revenue and sales data reported to the Federal Power Commission (FPC) on Form FPC-11, "Natural Gas Pipeline Company Monthly Statement." 1978-1983: EIA, *Natural Gas Monthly*, December 1984, Table 10. Delivered to Consumers: EIA, *Natural Gas Annual 1988, Volume 1*, Table 95. **1984 forward:** EIA, *Natural Gas Monthly*, October 1991, Table 4.

# Energy Prices Notes

1. The average domestic first purchase price represents the average price at which all domestic crude oil is purchased. Prior to February 1976, the price represented an estimate of the average of posted prices; beginning with February 1976, the price represents an average of actual first purchase prices. The data series was previously called "Actual Domestic Wellhead Price."

2. F.O.B. literally means "Free on Board". It denotes a transaction whereby the seller makes the product available with an agreement on a given port at a given price; it is the responsibility of the buyer to arrange for the transportation and insurance.

3. The landed cost of imported crude oil from selected countries does not represent the total cost of all imported crude. Prior to March 1975, imported crude costs to U.S. company-owned refineries in the Caribbean were not included in the landed cost, and costs of crude oil from countries that export only small amounts to the United States were also excluded. Beginning in March 1975, however, coverage was expanded to include U.S. company-owned refineries in the Caribbean. Landed costs do not include supplemental fees.

4. Beginning with January 1981, refiner acquisition costs of crude oil are from data collected on Form EIA-14, "Refiners' Monthly Cost Report." Those costs were previously published from data collected on Form ERA-49, "Domestic Crude Oil Entitlements Program Refiners Monthly Report." Form ERA-49 was discontinued with the decontrol of crude oil on January 28, 1981. Crude oil purchases and costs are defined for Form EIA-14 in accordance with conventions used for Form ERA-49. Also, the respondents for the two forms are essentially the same. However, due to possible different interpretations of the filing requirements and a different method for handling prior period adjustments, care must be taken when comparing the data collected on the two forms.

The refiner acquisition cost of crude oil is the average price paid by refiners for crude oil booked into their refineries in accordance with accounting procedures generally accepted and consistently and historically applied by the refiners concerned. Domestic crude oil is that oil produced in the United States or from the outer continental shelf as defined in 43 USC Section 1331. Imported crude oil is either that oil reported on Form ERA-51, "Transfer Pricing Report," or any crude oil that is not domestic oil. The composite cost is the weighted average of domestic and imported crude oil costs.

Crude oil costs and volumes reported on Form ERA-49 excluded unfinished oils but included the Strategic Petroleum Reserve (SPR). Crude oil costs and volumes reported on Form FEA-P110-M-1, "Refiners' Monthly Cost Allocation Report," included unfinished oils but excluded SPR. Imported averages derived from Form ERA-49 exclude oil purchased for SPR, whereas the composite averages derived from Form ERA-49 include SPR. None of the prices derived from Form EIA-14 include either unfinished oils or SPR.

5. Several different series of motor gasoline prices are published in this section. U.S. City Average Retail Prices of Motor Gasoline are calculated monthly by the Bureau of Labor Statistics during the development of the Consumer Price Index (CPI). These prices include all Federal, State, and local taxes paid at the time of sale. For the period 1974-1977, prices were collected in 56 urban areas. For the period 1978 forward, prices were collected from a new sample of service stations in 85 urban areas selected to represent all urban consumers—about 80 percent of the total U.S. population. The service stations are selected initially, and on a replacement basis, in such a way that they represent the purchasing habits of the CPI population. Service stations in the current sample include those providing all types of service (i.e., full-, mini-, and self-serve).

Refiner prices of finished motor gasoline for resale and to end users are determined by the Energy Information Administration (EIA) in a monthly survey of refiners and gas plant operators (Form EIA-782A). The prices do not include any Federal, State, or local taxes paid at the time of sale. Estimates of prices prior to January 1983 are based on Form FEA-P302-M-1/EIA-460, "Petroleum Industry Monthly Report for Product Prices," and also exclude all Federal, State, or local taxes paid at the time of sale. Sales for resale are those made to purchasers who are other-than-ultimate consumers. Sales to end users are sales made directly to the consumer of the product, including bulk consumers such as agriculture, industry, and utilities, as well as residential and commercial consumers.

6. Starting in January 1983, Form EIA-782, "Monthly Petroleum Product Sales Report," replaced 10 previous surveys. Every attempt was made to continue the most important price series. However, prices published through December 1982 and those published since January 1983 do not necessarily form continuous data series due to changes in survey forms, definitions, instructions, populations, samples, processing systems, and statistical procedures. To provide historical data, continuous series were generated for annual data 1978-1982 and for monthly data 1981 and 1982 by estimating the prices that would have been published had Form EIA-782 survey and system been in operation at that time. This form of estimation was performed after detailed adjustment was made for product and sales type matching and for discontinuity due to other factors. An important difference between the previous and present prices is the distinction between wholesale and resale and between retail and end

user. The resale category continues to include sales among resellers. However, bulk sales to utility, industrial, and commercial accounts previously included in the wholesale category are now counted as made to end users. The end-user category continues to include retail sales through companyowned and operated outlets but also includes the bulk utility, industrial, and commercial sales. Additional information may be found in Estimated Historic Time Series for the EIA-782, a feature article reprinted from the December 1983 [3] *Petroleum Marketing Monthly*, published by EIA.

7. National average electricity prices are shown in two data series. The "Annual Series" is based on data from more than 3,000 publicly and privately owned electric utilities that report on Form EIA-861, "Annual Electric Utility Report." The "Monthly Series" is based on data from over 400 utilities statistically chosen as a stratified sample of the utilities that report on Form EIA-861. The selected utilities report monthly on Form EIA-826, "Monthly Electric Utility Sales and Revenue Report with State Distributions," formerly the "Electric Utility Company Monthly Statement." Annual values shown for the monthly series are the sum of the monthly revenue divided by the sum of the monthly sales. Prior to January 1986, only privately owned utilities were included in the monthly survey and the sample was chosen using cut-off, rather than stratification, techniques.

8. Natural gas prices are intended to include all taxes. Instructions on the data collection forms specifically direct that all U.S., State, and local taxes, surcharges, and/or adjustments billed to consumers are to be included. However, sales and other taxes itemized on consumers' bills are sometimes excluded by the reporting utilities.

Delivered-to-consumers prices for 1987 forward represent natural gas delivered and sold to residential, commercial, industrial, and electric utility consumers. They do not include the price of natural gas delivered to industrial and commercial consumers on behalf of third parties. Volumes of natural gas delivered on behalf of third parties are included in the consumption data shown in Table 4.3. Additional information is available in the Energy Information Administration *Natural Gas Monthly*, Appendix C.

Electric utility data for 1973-1982 cover all electric generating plants at which the generator nameplate capacity of all steam-electric units combined totaled 25 megawatts or greater. From 1974-1982, peaking units were included in the data and counted towards the 25-megawatt-or-greater total. Data for 1983-1990 cover all electric generating plants at which the generator nameplate capacity of all steam-electric units combined totaled 50 megawatts or greater. Data for 1991 cover all electric generating plants at which the generator nameplate capacity of all steam-electric units and combined-cycle units combined totaled 50 megawatts or greater.

# Section 10. International Energy

**Crude Oil Production.** World crude oil production during July 1991 was 60 million barrels per day, up 0.9 million barrels per day from the level in the previous month.

Organization of Petroleum Exporting Countries (OPEC) production during July 1991 averaged 24 million barrels per day, up 0.5 million barrels per day from the level during the previous month. Production by the Arab members of OPEC during July 1991 averaged 14 million barrels per day, up 0.4 million barrels per day from the June 1991 level. During July 1991, production increased in Saudi Arabia by 325 thousand barrels per day and in Kuwait by 90 thousand barrels per day. Production was unchanged in Algeria, Iraq, Libya, Qatar, and the United Arab Emirates. Among the non-Arab members of OPEC, production during July 1991 increased in Indonesia by 50 thousand barrels per day. Production was unchanged in Iran, Nigeria, and Venezuela.

Among the non-OPEC nations, production during July 1991 increased in the United Kingdom by 280 thousand barrels per day, in the United States by 44 thousand barrels per day, and in Canada by 40 thousand barrels per day. Production decreased in Mexico by 20 thousand barrels per day but remained unchanged in China and the U.S.S.R.

**Petroleum Consumption.** In April 1991, consumption in all Organization for Economic Cooperation and Development (OECD) countries was 36.8 million barrels per day, 2 percent higher than the level in April 1990. Consumption was higher in Japan by 7 percent and lower in the United States by 4 percent, compared with levels 1 year earlier. In April 1991, consumption in all European OECD countries combined was 12.9 million barrels per day, 7 percent higher than in the previous April. Consumption was higher in Italy by 20 percent, higher in the United Kingdom by 1 percent, lower in France by 1 percent, and slightly lower in Canada, compared with levels 1 year earlier. Beginning with January 1991, data for Germany are for the unified Germany, formerly East Germany and West Germany.

**Petroleum Stocks.** For all OECD countries, petroleum stocks at the end of April 1991 totaled 3.5 billion barrels, lower by 2 percent than the ending stock level in April 1990. Stocks were lower in the United States by 4 percent and lower in Japan by 2 percent, compared with levels 1 year earlier. In April 1991, stock levels in all European OECD countries totaled 1.2 billion barrels, 2 percent higher than in the previous April. Stocks were higher in Italy by 11 percent, higher in the United Kingdom by 4 percent, higher in France by 1 percent, and lower in Canada by 12 percent, compared with levels 1 year earlier. Beginning with January 1991, data for Germany are for the unified Germany, formerly East Germany and West Germany.

**Nuclear Electricity Generation.** Based on *Nucleonics Week* information for July 1991, reporting countries with nuclear capacity generated 159 gross terawatthours (billion kilowatthours) of nuclear-generated electricity, 11 percent more than in July 1990.

France's Cattenom 4, a 1,362-megawatts electric nuclear unit, achieved its first electricity on May 27, 1991. The unit has been added to the total of operable nuclear generating units for the month of July.

As of July 31, 1991, there were 355 operable nuclear generating units in the reporting countries. The units had a collective gross generating capacity of 298.3 gigawatts (million kilowatts). The 111 U.S. units accounted for 106.0 gross gigawatts, 35.5 percent of the total reported nuclear generating capacity.

# Table 10.1a World Crude Oil Production: Algeria Through Venezuela

(Thousand Barrels per Day)

| | Algeria | Iraq | Kuwait[a] | Libya | Qatar | Saudi Arabia[a] | United Arab Emirates | Arab OPEC[b] | Indonesia | Iran | Nigeria | Venezuela |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1973 Average** | **1,097** | **2,018** | **3,020** | **2,175** | **570** | **7,596** | **1,533** | **18,009** | **1,339** | **5,861** | **2,054** | **3,366** |
| **1974 Average** | **1,009** | **1,971** | **2,546** | **1,521** | **518** | **8,480** | **1,679** | **17,724** | **1,375** | **6,022** | **2,255** | **2,976** |
| **1975 Average** | **983** | **2,262** | **2,084** | **1,480** | **438** | **7,075** | **1,664** | **15,985** | **1,307** | **5,350** | **1,783** | **2,346** |
| **1976 Average** | **1,075** | **2,415** | **2,145** | **1,933** | **497** | **8,577** | **1,936** | **18,579** | **1,504** | **5,883** | **2,067** | **2,294** |
| **1977 Average** | **1,152** | **2,348** | **1,969** | **2,063** | **445** | **9,245** | **1,999** | **19,221** | **1,686** | **5,663** | **2,085** | **2,238** |
| **1978 Average** | **1,231** | **2,563** | **2,131** | **1,983** | **487** | **8,301** | **1,831** | **18,525** | **1,635** | **5,242** | **1,897** | **2,165** |
| **1979 Average** | **1,224** | **3,477** | **2,500** | **2,092** | **508** | **9,532** | **1,831** | **21,163** | **1,591** | **3,168** | **2,302** | **2,356** |
| **1980 Average** | **1,106** | **2,514** | **1,656** | **1,787** | **472** | **9,900** | **1,709** | **19,144** | **1,577** | **1,662** | **2,055** | **2,168** |
| **1981 Average** | **1,002** | **1,000** | **1,125** | **1,140** | **405** | **9,815** | **1,474** | **15,961** | **1,605** | **1,380** | **1,433** | **2,102** |
| **1982 Average** | **987** | **1,012** | **823** | **1,150** | **330** | **6,483** | **1,250** | **12,035** | **1,339** | **2,214** | **1,295** | **1,895** |
| **1983 Average** | **968** | **1,005** | **1,064** | **1,105** | **295** | **5,086** | **1,149** | **10,672** | **1,343** | **2,440** | **1,241** | **1,801** |
| **1984 Average** | **1,014** | **1,209** | **1,157** | **1,087** | **394** | **4,663** | **1,146** | **10,670** | **1,412** | **2,174** | **1,388** | **1,798** |
| **1985 Average** | **1,037** | **1,433** | **1,023** | **1,059** | **301** | **3,388** | **1,193** | **9,434** | **1,325** | **2,250** | **1,495** | **1,677** |
| **1986 Average** | **945** | **1,690** | **1,419** | **1,034** | **308** | **4,870** | **1,330** | **11,596** | **1,390** | **2,035** | **1,467** | **1,787** |
| **1987 Average** | **1,048** | **2,079** | **1,585** | **972** | **293** | **4,265** | **1,541** | **11,783** | **1,343** | **2,298** | **1,341** | **1,752** |
| **1988 Average** | **1,040** | **2,685** | **1,492** | **1,175** | **346** | **5,086** | **1,565** | **13,389** | **1,342** | **2,240** | **1,450** | **1,903** |
| **1989** January | 1,090 | 2,650 | 1,250 | 1,097 | 400 | 4,918 | 1,735 | 13,140 | 1,401 | 2,800 | 1,454 | 1,862 |
| February | 1,090 | 2,650 | 1,350 | 1,097 | 420 | 4,673 | 1,650 | 12,929 | 1,401 | 2,850 | 1,454 | 1,862 |
| March | 1,090 | 2,650 | 1,390 | 1,097 | 340 | 4,515 | 1,675 | 12,757 | 1,401 | 3,200 | 1,604 | 1,862 |
| April | 1,090 | 2,750 | 1,695 | 1,149 | 330 | 4,914 | 1,705 | 13,633 | 1,401 | 2,900 | 1,654 | 1,862 |
| May | 1,090 | 2,750 | 2,005 | 1,149 | 410 | 5,022 | 1,705 | 14,131 | 1,401 | 2,500 | 1,654 | 1,862 |
| June | 1,090 | 2,700 | 2,105 | 1,149 | 420 | 4,825 | 1,975 | 14,264 | 1,401 | 2,800 | 1,754 | 1,913 |
| July | 1,110 | 2,850 | 1,905 | 1,149 | 400 | 4,923 | 1,921 | 14,258 | 1,384 | 2,800 | 1,854 | 1,875 |
| August | 1,110 | 3,000 | 1,905 | 1,149 | 400 | 5,022 | 1,961 | 14,546 | 1,434 | 3,000 | 1,754 | 1,926 |
| September | 1,110 | 2,900 | 1,905 | 1,149 | 400 | 5,218 | 2,156 | 14,838 | 1,384 | 2,850 | 1,754 | 1,926 |
| October | 1,110 | 3,000 | 1,905 | 1,149 | 400 | 5,317 | 2,256 | 15,136 | 1,434 | 2,950 | 1,654 | 1,977 |
| November | 1,110 | 2,950 | 2,095 | 1,201 | 380 | 5,701 | 2,356 | 15,792 | 1,434 | 2,800 | 1,854 | 1,977 |
| December | 1,110 | 3,000 | 2,090 | 1,201 | 395 | 5,696 | 2,406 | 15,897 | 1,434 | 2,900 | 1,854 | 1,977 |
| **Average** | **1,100** | **2,822** | **1,802** | **1,145** | **391** | **5,064** | **1,960** | **14,284** | **1,409** | **2,863** | **1,693** | **1,907** |
| **1990** January | 1,160 | 2,900 | 1,995 | 1,200 | 370 | 5,595 | 2,055 | 15,275 | 1,250 | 2,700 | 1,750 | 1,990 |
| February | 1,160 | 2,900 | 1,995 | 1,350 | 380 | 5,695 | 2,030 | 15,510 | 1,250 | 3,000 | 1,750 | 2,140 |
| March | 1,160 | 2,900 | 2,175 | 1,300 | 400 | 5,825 | 2,055 | 15,815 | 1,350 | 3,000 | 1,750 | 2,040 |
| April | 1,160 | 2,950 | 1,950 | 1,250 | 400 | 5,950 | 2,100 | 15,760 | 1,400 | 2,900 | 1,850 | 2,040 |
| May | 1,160 | 3,100 | 1,950 | 1,250 | 365 | 5,450 | 2,110 | 15,385 | 1,350 | 3,200 | 1,750 | 2,040 |
| June | 1,160 | 3,200 | 1,755 | 1,250 | 365 | 5,455 | 2,050 | 15,235 | 1,350 | 3,100 | 1,750 | 2,040 |
| July | 1,160 | 3,400 | 1,850 | 1,250 | 370 | 5,450 | 2,050 | 15,530 | 1,380 | 3,050 | 1,750 | 2,040 |
| August | 1,160 | 1,000 | 100 | 1,400 | 400 | 5,850 | 1,650 | 11,560 | 1,450 | 3,300 | 1,850 | 2,090 |
| September | 1,190 | 500 | 100 | 1,400 | 400 | 7,740 | 2,200 | 13,530 | 1,470 | 3,300 | 1,900 | 2,290 |
| October | 1,210 | 450 | 75 | 1,550 | 400 | 7,810 | 2,310 | 13,805 | 1,475 | 3,000 | 1,950 | 2,275 |
| November | 1,210 | 425 | 75 | 1,500 | 400 | 8,310 | 2,375 | 14,295 | 1,500 | 3,200 | 1,950 | 2,320 |
| December | 1,210 | 425 | 75 | 1,500 | 370 | 8,570 | 2,450 | 14,600 | 1,550 | 3,300 | 1,950 | 2,340 |
| **Average** | **1,175** | **2,008** | **1,170** | **1,350** | **385** | **6,477** | **2,120** | **14,685** | **1,399** | **3,088** | **1,829** | **2,137** |
| **1991** January | 1,210 | 250 | 50 | 1,500 | 350 | 8,140 | 2,500 | 14,000 | 1,630 | 3,200 | 1,960 | 2,390 |
| February | 1,210 | 0 | 0 | 1,500 | 390 | 8,200 | 2,525 | 13,825 | 1,630 | 3,300 | 1,960 | 2,390 |
| March | 1,210 | 0 | 0 | 1,450 | 390 | 8,000 | 2,550 | 13,600 | 1,630 | 3,400 | 1,960 | 2,390 |
| April | 1,210 | 200 | 0 | 1,450 | 390 | 7,400 | 2,550 | 13,200 | 1,630 | 3,300 | 1,960 | 2,340 |
| May | 1,210 | 350 | 0 | 1,450 | 390 | 7,400 | 2,350 | 13,150 | 1,630 | 3,300 | 1,960 | 2,340 |
| June | 1,210 | 375 | 75 | 1,450 | 390 | 8,150 | 2,350 | 14,000 | 1,630 | 3,300 | 1,910 | 2,340 |
| July | 1,210 | 375 | 165 | 1,450 | 390 | 8,475 | 2,350 | 14,415 | 1,680 | 3,300 | 1,910 | 2,340 |
| **7-Mo. Avg.** | **1,210** | **224** | **42** | **1,464** | **384** | **7,965** | **2,453** | **13,742** | **1,637** | **3,300** | **1,946** | **2,361** |

[a] Includes about one-half of the production in the Kuwait-Saudi Arabia Neutral Zone from 1973 through July 1990 and in June 1991. Kuwaiti Neutral Zone output was discontinued following Iraq's invasion of Kuwait on August 2, 1990, but was resumed in June 1991. In July 1991, Neutral Zone production by both Kuwait and Saudi Arabia totaled about 150 thousand barrels per day.

[b] The Arab members of the Organization of Petroleum Exporting Countries (OPEC) are Algeria, Iraq, Kuwait, Libya, Qatar, Saudi Arabia, and the United Arab Emirates. Production in the Neutral Zone between Kuwait and Saudi Arabia is included in "Arab OPEC."

Footnotes continued on following page.

# Table 10.1b World Crude Oil Production: Total OPEC, Canada Through U.S.S.R, and World

(Thousand Barrels per Day)

| | Total OPEC[c] | Persian Gulf Nations[d] | Canada | Mexico | United Kingdom | United States | China | U.S.S.R. | Other[e] | Market Economies[f] | World |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1973 Average** | **30,988** | **20,668** | **1,798** | **465** | **2** | **9,208** | **1,090** | **8,329** | **3,804** | **45,805** | **55,684** |
| **1974 Average** | **30,729** | **21,282** | **1,551** | **571** | **2** | **8,774** | **1,315** | **8,856** | **3,862** | **45,021** | **55,660** |
| **1975 Average** | **27,154** | **18,934** | **1,430** | **705** | **12** | **8,375** | **1,490** | **9,472** | **4,139** | **41,338** | **52,777** |
| **1976 Average** | **30,737** | **21,514** | **1,314** | **831** | **245** | **8,132** | **1,670** | **9,985** | **4,355** | **45,132** | **57,269** |
| **1977 Average** | **31,299** | **21,725** | **1,321** | **981** | **768** | **8,245** | **1,874** | **10,485** | **4,616** | **46,745** | **59,589** |
| **1978 Average** | **29,875** | **20,606** | **1,316** | **1,209** | **1,082** | **8,707** | **2,082** | **10,950** | **4,782** | **46,497** | **60,003** |
| **1979 Average** | **30,998** | **21,066** | **1,500** | **1,461** | **1,568** | **8,552** | **2,122** | **11,187** | **5,089** | **48,725** | **62,477** |
| **1980 Average** | **26,985** | **17,961** | **1,435** | **1,936** | **1,622** | **8,597** | **2,114** | **11,460** | **5,204** | **45,355** | **59,353** |
| **1981 Average** | **22,843** | **15,245** | **1,285** | **2,313** | **1,811** | **8,572** | **2,012** | **11,552** | **5,390** | **41,784** | **55,778** |
| **1982 Average** | **19,145** | **12,156** | **1,271** | **2,748** | **2,065** | **8,649** | **2,045** | **11,615** | **5,646** | **39,069** | **53,184** |
| **1983 Average** | **17,891** | **11,081** | **1,356** | **2,689** | **2,291** | **8,688** | **2,120** | **11,684** | **6,248** | **38,703** | **52,967** |
| **1984 Average** | **17,857** | **10,784** | **1,438** | **2,780** | **2,480** | **8,879** | **2,296** | **11,576** | **6,897** | **39,893** | **54,203** |
| **1985 Average** | **16,634** | **9,630** | **1,471** | **2,745** | **2,530** | **8,971** | **2,505** | **11,250** | **7,540** | **39,463** | **53,646** |
| **1986 Average** | **18,734** | **11,696** | **1,474** | **2,435** | **2,539** | **8,680** | **2,620** | **11,540** | **7,850** | **41,282** | **55,872** |
| **1987 Average** | **18,846** | **12,103** | **1,535** | **2,548** | **2,406** | **8,349** | **2,690** | **11,690** | **8,242** | **41,507** | **56,306** |
| **1988 Average** | **20,785** | **13,457** | **1,616** | **2,512** | **2,232** | **8,140** | **2,730** | **11,823** | **8,669** | **43,562** | **58,507** |
| **1989** January | 21,134 | 13,797 | 1,580 | 2,531 | 1,815 | 7,937 | 2,790 | 11,595 | 9,123 | 43,734 | 58,505 |
| February | 20,943 | 13,636 | 1,570 | 2,501 | 1,765 | 7,788 | 2,790 | 11,595 | 9,071 | 43,252 | 58,023 |
| March | 21,276 | 13,814 | 1,540 | 2,541 | 1,810 | 7,575 | 2,790 | 11,595 | 9,299 | 43,655 | 58,426 |
| April | 21,922 | 14,337 | 1,555 | 2,526 | 1,710 | 7,772 | 2,690 | 11,480 | 9,204 | 44,289 | 58,858 |
| May | 22,001 | 14,435 | 1,560 | 2,526 | 1,555 | 7,816 | 2,700 | 11,480 | 9,141 | 44,219 | 58,778 |
| June | 22,614 | 14,868 | 1,600 | 2,526 | 1,366 | 7,624 | 2,700 | 11,425 | 8,984 | 44,334 | 58,838 |
| July | 22,653 | 14,842 | 1,535 | 2,521 | 1,753 | 7,444 | 2,740 | 11,425 | 9,274 | 44,800 | 59,344 |
| August | 23,182 | 15,327 | 1,540 | 2,521 | 1,840 | 7,544 | 2,770 | 11,425 | 9,418 | 45,659 | 60,239 |
| September | 23,274 | 15,472 | 1,580 | 2,456 | 1,950 | 7,548 | 2,805 | 11,314 | 9,407 | 45,828 | 60,333 |
| October | 23,724 | 15,871 | 1,525 | 2,516 | 2,045 | 7,453 | 2,830 | 11,239 | 9,581 | 46,451 | 60,912 |
| November | 24,420 | 16,324 | 1,595 | 2,516 | 1,965 | 7,536 | 2,770 | 11,239 | 9,634 | 47,273 | 61,674 |
| December | 24,605 | 16,529 | 1,545 | 2,476 | 1,875 | 7,337 | 2,745 | 11,239 | 9,499 | 46,944 | 61,320 |
| **Average** | **22,655** | **14,945** | **1,560** | **2,513** | **1,788** | **7,613** | **2,760** | **11,420** | **9,305** | **45,047** | **59,614** |
| **1990** January | 23,505 | 15,658 | 1,460 | 2,515 | 1,924 | 7,546 | 2,800 | 11,260 | 9,524 | 46,083 | 60,535 |
| February | 24,200 | 16,041 | 1,480 | 2,515 | 1,824 | 7,497 | 2,780 | 10,898 | 9,601 | 46,726 | 60,796 |
| March | 24,515 | 16,396 | 1,585 | 2,505 | 1,949 | 7,433 | 2,750 | 11,260 | 9,687 | 47,283 | 61,685 |
| April | 24,510 | 16,291 | 1,530 | 2,505 | 1,929 | 7,407 | 2,750 | 11,074 | 9,711 | 47,196 | 61,417 |
| May | 24,255 | 16,216 | 1,510 | 2,480 | 1,899 | 7,328 | 2,750 | 10,905 | 9,718 | 46,794 | 60,846 |
| June | 24,025 | 15,967 | 1,490 | 2,460 | 1,844 | 7,106 | 2,760 | 10,732 | 9,607 | 46,140 | 60,024 |
| July | 24,300 | 16,211 | 1,525 | 2,480 | 1,755 | 7,173 | 2,720 | 10,645 | 9,526 | 46,368 | 60,125 |
| August | 20,820 | 12,342 | 1,525 | 2,530 | 1,635 | 7,287 | 2,755 | 10,527 | 9,543 | 42,948 | 56,622 |
| September | 23,060 | 14,282 | 1,530 | 2,620 | 1,765 | 7,224 | 2,815 | 10,439 | 9,738 | 45,545 | 59,191 |
| October | 23,090 | 14,088 | 1,580 | 2,640 | 1,870 | 7,542 | 2,780 | 10,173 | 9,855 | 46,200 | 59,530 |
| November | 23,855 | 14,827 | 1,550 | 2,660 | 1,832 | 7,387 | 2,805 | 10,121 | 10,140 | 47,042 | 60,350 |
| December | 24,330 | 15,232 | 1,575 | 2,660 | 1,682 | 7,338 | 2,765 | 10,149 | 10,076 | 47,277 | 60,575 |
| **Average** | **23,700** | **15,289** | **1,529** | **2,548** | **1,825** | **7,355** | **2,769** | **10,681** | **9,728** | **46,295** | **60,135** |
| **1991** January | 23,770 | 14,532 | 1,580 | 2,660 | 1,675 | E7,418 | 2,785 | 10,295 | 10,118 | 46,861 | 60,301 |
| February | 23,700 | 14,455 | 1,560 | 2,674 | 1,905 | E7,548 | 2,795 | 9,600 | 10,152 | 47,177 | 59,934 |
| March | 23,575 | 14,383 | 1,560 | 2,669 | 2,069 | E7,481 | 2,790 | 10,010 | 10,145 | 47,137 | 60,299 |
| April | 23,025 | 13,881 | 1,530 | 2,655 | 1,525 | E7,467 | 2,795 | 9,955 | R10,036 | R45,879 | R58,988 |
| May | 22,955 | R13,832 | 1,545 | 2,695 | 1,395 | E7,368 | 2,795 | 9,870 | R10,133 | R45,732 | R58,756 |
| June | 23,755 | 14,681 | 1,565 | 2,720 | 1,525 | E7,282 | 2,805 | 9,470 | R9,875 | R46,363 | R58,997 |
| July | 24,240 | 15,096 | 1,605 | 2,700 | 1,805 | E7,326 | 2,805 | 9,470 | 9,936 | 47,253 | 59,887 |
| **7-Mo. Avg.** | **23,574** | **14,409** | **1,564** | **2,682** | **1,699** | **E7,411** | **2,796** | **9,814** | **10,056** | **46,626** | **59,595** |

Footnotes continued.

[c] "Total OPEC" consists of Algeria, Ecuador, Gabon, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela. Production from the Neutral Zone between Kuwait and Saudi Arabia is included in "Total OPEC."

[d] The Persian Gulf Nations are Bahrain, Iran, Iraq, Kuwait, Qatar, Saudi Arabia, and the United Arab Emirates. Production from the Neutral Zone between Kuwait and Saudi Arabia is included in "Persian Gulf Nations."

[e] Other is a calculated total derived from the difference between World and the sum of production in Total OPEC, Canada, Mexico, the United Kingdom, the United States, China, and the U.S.S.R.

[f] Market Economies is World excluding Albania, Bulgaria, Cambodia, China, Cuba, Czechoslovakia, East Germany, Hungary, Laos, Mongolia, North Korea, Poland, Romania, U.S.S.R., Vietnam, and Yugoslavia.

R=Revised data. E=Estimate.

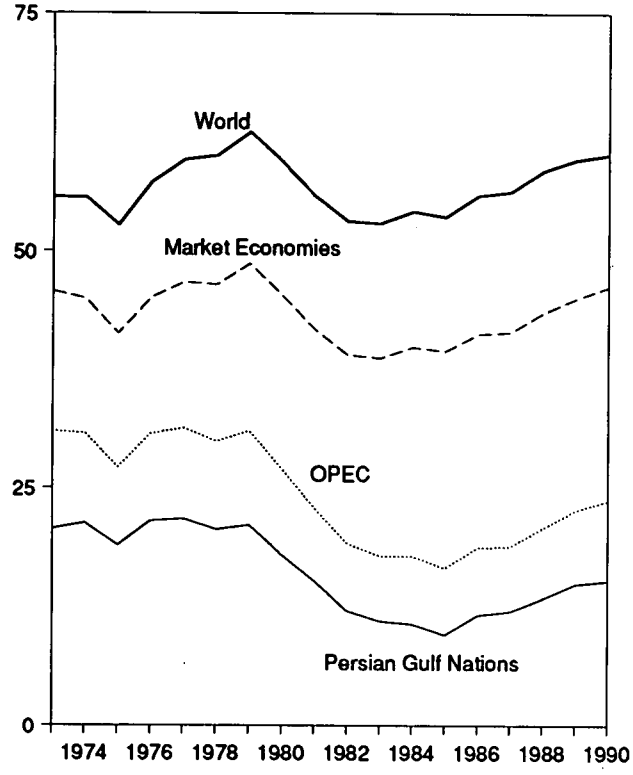
Notes: • Crude oil includes lease condensate but excludes natural gas plant liquids. • U.S. geographic coverage is the 50 States and the District of Columbia. • Monthly data are often preliminary figures and may not average to the annual totals because of rounding or because updates to the preliminary monthly data are not available.

Sources: • **United States**—Table 3.1a. • **Other Countries**—1973-1979 annual data: Energy Information Administration (EIA), *International Energy Annual 1981*, Table 8. 1980-1989 annual data: EIA, *International Energy Annual 1989*, Table 1. 1990 annual data: average of monthly data. Monthly data: *Petroleum Intelligence Weekly*, the *Oil and Gas Journal*, and other industry sources. • **World**—1973-1979: EIA, *International Energy Annual 1981*, Table 8. 1980-1989 annual data: EIA, *International Energy Annual 1989*, Table 1. 1990 annual data: average of monthly data. 1989 monthly data: EIA, Office of Energy Markets and End Use, International Energy Database. 1990 forward monthly data: EIA, *International Petroleum Statistics Report*, sum of all countries' monthly data.

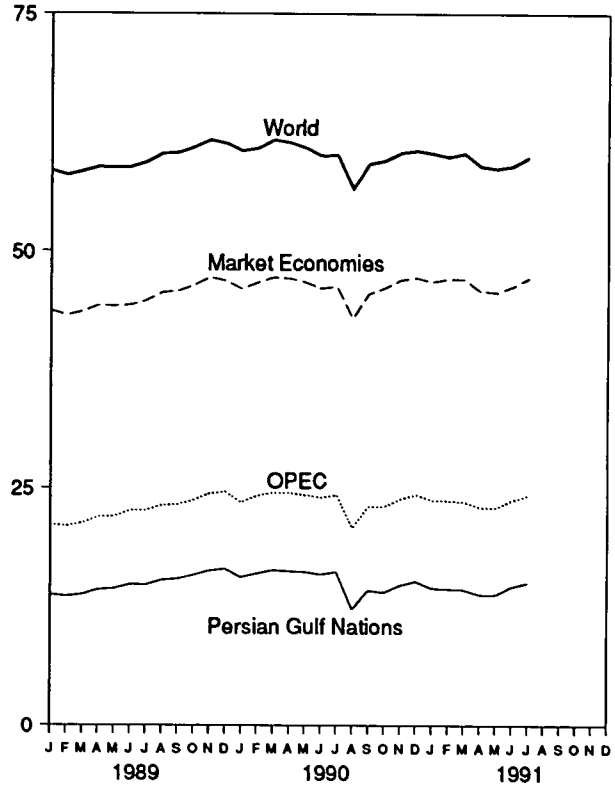
## Figure 10.1 Crude Oil Production

(Million Barrels per Day)

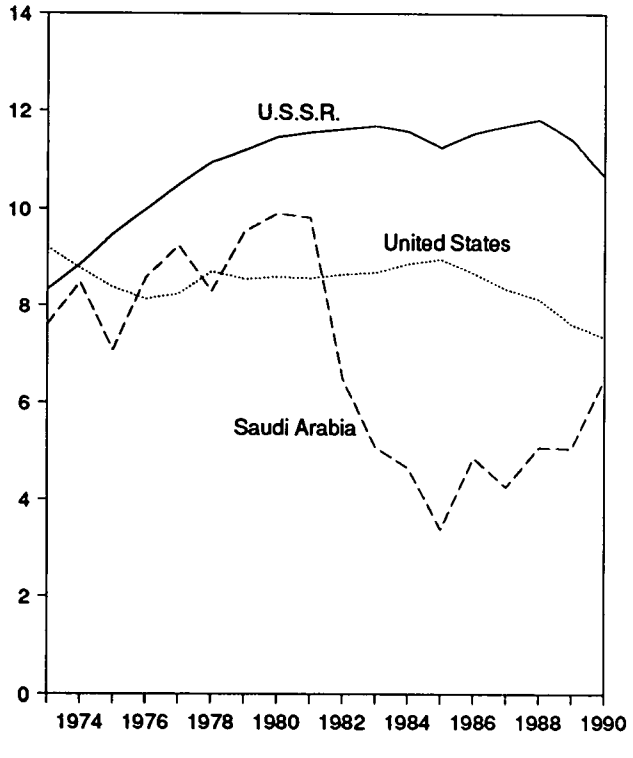
### World Production, 1973-1990



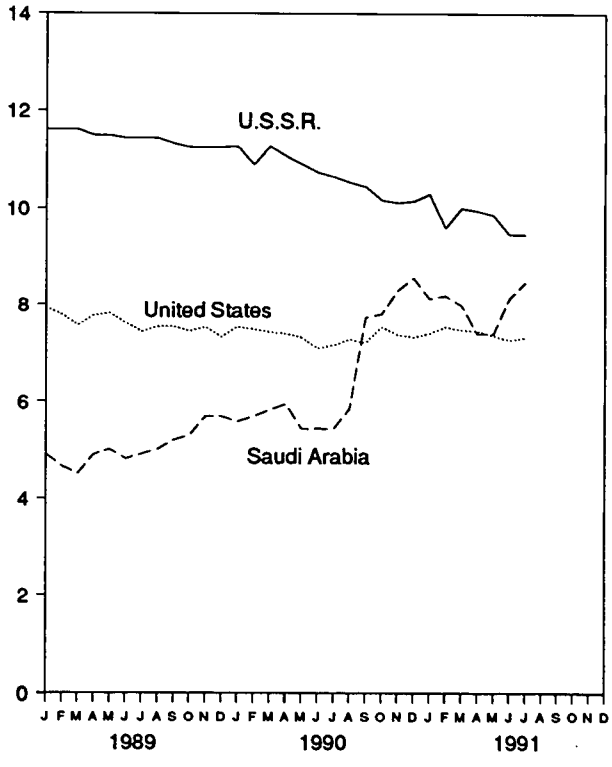

### World Production, Monthly




### Leading Producers, 1973-1990

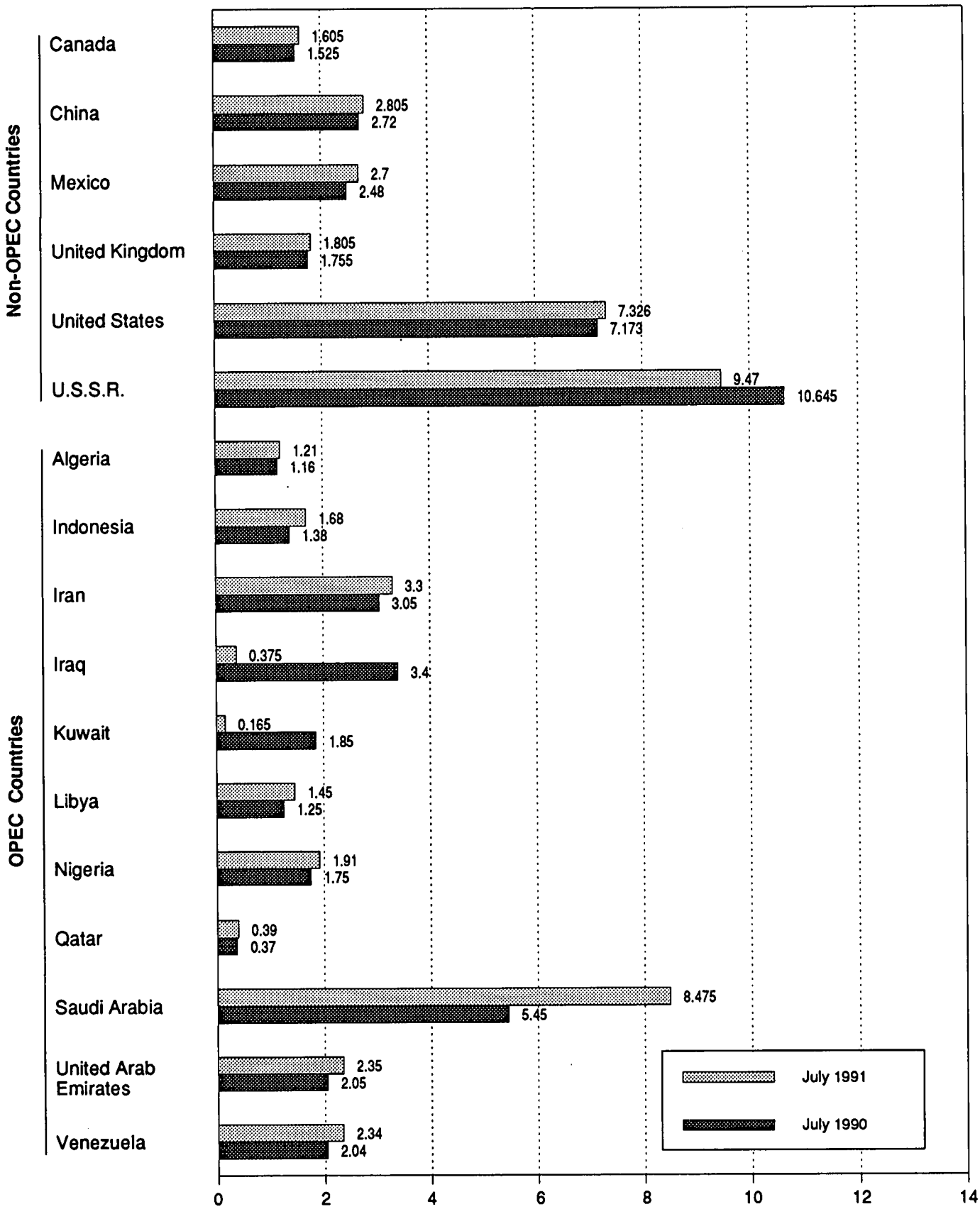



### Leading Producers, Monthly




Note: OPEC is the Organization of Petroleum Exporting Countries.
Sources: Tables 10.1a and 10.1b.

## Figure 10.2 Crude Oil Production by Selected Country
(Million Barrels per Day)

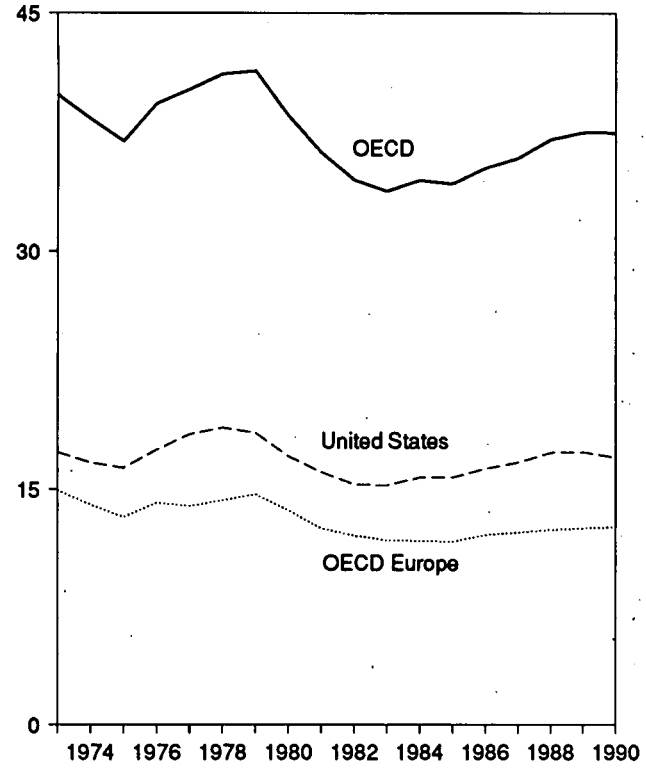



Note: OPEC is the Organization of Petroleum Exporting Countries.
Sources: Tables 10.1a and 10.1b.

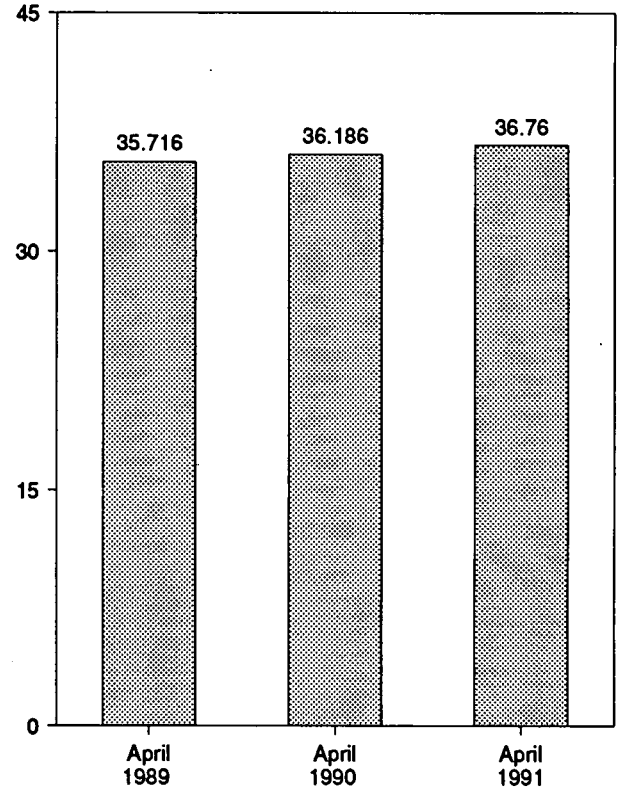
## Figure 10.3 Petroleum Consumption in OECD Countries

(Million Barrels per Day)

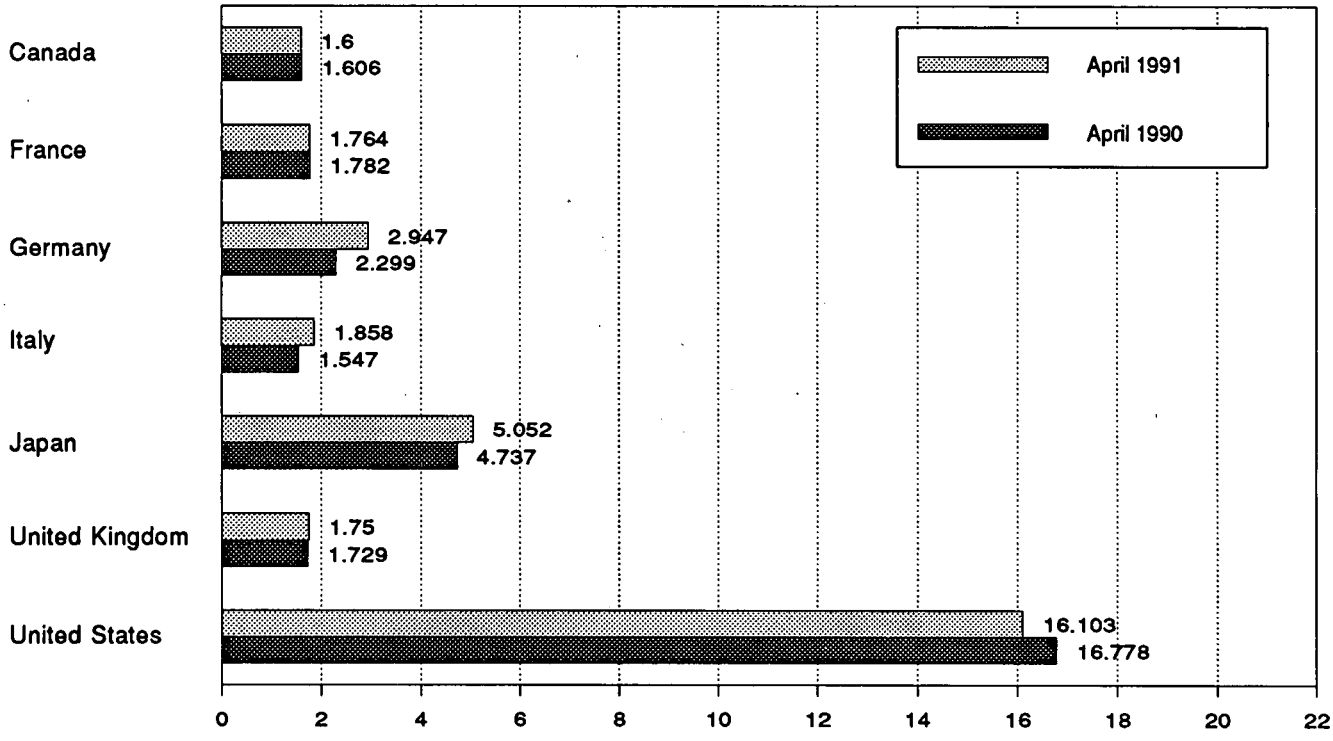
### OECD Consumption, 1973-1990




### OECD Consumption




### Consumption by Selected OECD Country




Note: OECD is the Organization for Economic Cooperation and Development.
Source: Table 10.2.

# Table 10.2 Petroleum Consumption in OECD Countries

(Thousand Barrels per Day)

| | Canada | France | Germany[a] | Italy | Japan | United Kingdom | United States | OECD Europe[b] | Other OECD[c] | OECD |
|---|---|---|---|---|---|---|---|---|---|---|
| **1973 Average** | 1,729 | 2,601 | 3,055 | 2,068 | 4,949 | 2,341 | 17,308 | 14,925 | 988 | 39,900 |
| **1974 Average** | 1,779 | 2,447 | 2,748 | 2,004 | 4,864 | 2,210 | 16,653 | 13,988 | 1,095 | 38,379 |
| **1975 Average** | 1,779 | 2,252 | 2,650 | 1,855 | 4,621 | 1,911 | 16,322 | 13,217 | 1,041 | 36,980 |
| **1976 Average** | 1,818 | 2,420 | 2,877 | 1,971 | 4,837 | 1,892 | 17,461 | 14,124 | 1,119 | 39,358 |
| **1977 Average** | 1,850 | 2,294 | 2,865 | 1,897 | 4,880 | 1,905 | 18,431 | 13,916 | 1,160 | 40,237 |
| **1978 Average** | 1,902 | 2,408 | 2,927 | 1,952 | 4,945 | 1,938 | 18,847 | 14,290 | 1,204 | 41,187 |
| **1979 Average** | 1,971 | 2,463 | 3,003 | 2,039 | 5,050 | 1,971 | 18,513 | 14,667 | 1,178 | 41,379 |
| **1980 Average** | 1,873 | 2,256 | 2,707 | 1,934 | 4,960 | 1,725 | 17,056 | 13,634 | 1,072 | 38,595 |
| **1981 Average** | 1,768 | 2,023 | 2,449 | 1,874 | 4,848 | 1,590 | 16,058 | 12,515 | 1,080 | 36,269 |
| **1982 Average** | 1,578 | 1,880 | 2,372 | 1,781 | 4,582 | 1,590 | 15,296 | 12,053 | 1,008 | 34,517 |
| **1983 Average** | 1,448 | 1,835 | 2,324 | 1,750 | 4,395 | 1,531 | 15,231 | 11,765 | 954 | 33,793 |
| **1984 Average** | 1,472 | 1,754 | 2,322 | 1,646 | 4,576 | 1,849 | 15,726 | 11,736 | 989 | 34,500 |
| **1985 Average** | 1,504 | 1,775 | 2,338 | 1,717 | 4,384 | 1,634 | 15,726 | 11,681 | 976 | 34,271 |
| **1986 Average** | 1,506 | 1,772 | 2,498 | 1,738 | 4,439 | 1,649 | 16,281 | 12,102 | 951 | 35,279 |
| **1987 Average** | 1,548 | 1,789 | 2,424 | 1,855 | 4,484 | 1,603 | 16,665 | 12,255 | 958 | 35,911 |
| **1988 Average** | 1,693 | 1,797 | 2,422 | 1,836 | 4,752 | 1,697 | 17,283 | 12,427 | 939 | 37,093 |
| **1989** January | 1,690 | 1,924 | 1,880 | 2,029 | 5,225 | 1,702 | 17,269 | 12,204 | 903 | 37,291 |
| February | 1,771 | 2,090 | 2,173 | 2,133 | 5,607 | 1,770 | 17,920 | 12,976 | 1,044 | 39,317 |
| March | 1,701 | 1,946 | 2,256 | 1,929 | 5,571 | 1,796 | 17,989 | 12,848 | 957 | 39,067 |
| April | 1,643 | 1,719 | 2,150 | 1,743 | 4,583 | 1,733 | 16,624 | 11,883 | 982 | 35,716 |
| May | 1,692 | 1,623 | 2,129 | 1,782 | 4,361 | 1,651 | 16,546 | 11,713 | 1,029 | 35,341 |
| June | 1,672 | 1,763 | 2,238 | 1,874 | 4,457 | 1,694 | 17,497 | 12,319 | 1,048 | 36,994 |
| July | 1,652 | 1,669 | 2,326 | 1,655 | 4,570 | 1,602 | 16,453 | 11,625 | 991 | 35,292 |
| August | 1,841 | 1,652 | 2,503 | 1,727 | 4,586 | 1,723 | 17,360 | 12,355 | 1,036 | 37,178 |
| September | 1,693 | 1,847 | 2,440 | 1,907 | 4,632 | 1,713 | 16,795 | 12,611 | 910 | 36,641 |
| October | 1,741 | 1,956 | 2,439 | 2,049 | 4,747 | 1,780 | 17,304 | 13,021 | 938 | 37,752 |
| November | 1,790 | 2,015 | 2,521 | 2,158 | 5,321 | 1,886 | 17,311 | 13,582 | 983 | 38,987 |
| December | 1,908 | 2,096 | 2,306 | 2,194 | 6,162 | 1,808 | 18,858 | 13,230 | 989 | 41,147 |
| **Average** | 1,733 | 1,857 | 2,280 | 1,930 | 4,983 | 1,738 | 17,325 | 12,531 | 984 | 37,556 |
| **1990** January | 1,671 | 2,028 | 2,208 | 2,116 | 5,615 | 1,726 | 16,964 | 12,869 | 973 | 38,092 |
| February | 1,772 | 1,981 | 2,390 | 1,969 | 5,942 | 1,834 | 17,175 | 13,029 | 1,000 | 38,918 |
| March | 1,708 | 1,871 | 2,343 | 1,791 | 5,563 | 1,924 | 17,087 | 12,635 | 1,083 | 38,075 |
| April | 1,606 | 1,782 | 2,299 | 1,547 | 4,737 | 1,729 | 16,778 | 12,098 | 966 | 36,186 |
| May | 1,699 | 1,604 | 2,382 | 1,714 | 4,542 | 1,759 | 16,915 | 12,112 | 1,039 | 36,307 |
| June | 1,640 | 1,760 | 2,504 | 1,721 | 4,607 | 1,809 | 17,165 | 12,629 | 1,020 | 37,061 |
| July | 1,727 | 1,852 | 2,688 | 1,799 | 5,056 | 1,820 | 17,084 | 13,069 | 1,011 | 37,947 |
| August | 1,881 | 1,780 | 2,383 | 1,662 | 5,306 | 1,752 | 18,050 | 12,759 | 1,125 | 39,121 |
| September | 1,659 | 1,654 | 2,280 | 1,790 | 5,086 | 1,623 | 16,512 | 12,037 | 1,014 | 36,308 |
| October | 1,738 | 1,676 | 2,320 | 1,913 | 4,993 | 1,591 | 16,934 | 12,249 | 1,048 | 36,961 |
| November | 1,688 | 1,814 | 2,434 | 2,023 | 5,245 | 1,705 | 16,695 | 12,761 | 1,029 | 37,417 |
| December | 1,594 | 1,967 | 2,353 | 2,021 | 5,986 | 1,607 | 16,494 | 12,777 | 1,068 | 37,918 |
| **Average** | 1,698 | 1,814 | 2,382 | 1,839 | 5,221 | 1,739 | 16,988 | 12,589 | 1,032 | 37,527 |
| **1991** January | 1,637 | 2,137 | R2,882 | 2,252 | 5,871 | 1,768 | 16,882 | R14,220 | 1,053 | R39,664 |
| February | 1,634 | 1,986 | 2,653 | 2,076 | 6,159 | 1,797 | 16,284 | R13,545 | 1,026 | R38,648 |
| March | 1,482 | 1,754 | R2,739 | 1,729 | 5,839 | 1,689 | 16,100 | R12,428 | 1,070 | R36,919 |
| April | 1,600 | 1,764 | 2,947 | 1,858 | 5,052 | 1,750 | 16,103 | 12,932 | 1,073 | 36,760 |
| **4-Mo. Average** | 1,587 | 1,910 | 2,808 | 1,977 | 5,725 | 1,750 | 16,346 | 13,278 | 1,056 | 37,992 |

[a] Through December 1990, the data for Germany are for the former West Germany only. Beginning with January 1991, the data for Germany are for the unified Germany, i.e., the former East Germany and West Germany.

[b] "OECD Europe" consists of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, and the United Kingdom.

[c] "Other OECD" consists of Australia, New Zealand, and the U.S. Territories.

R=Revised data.

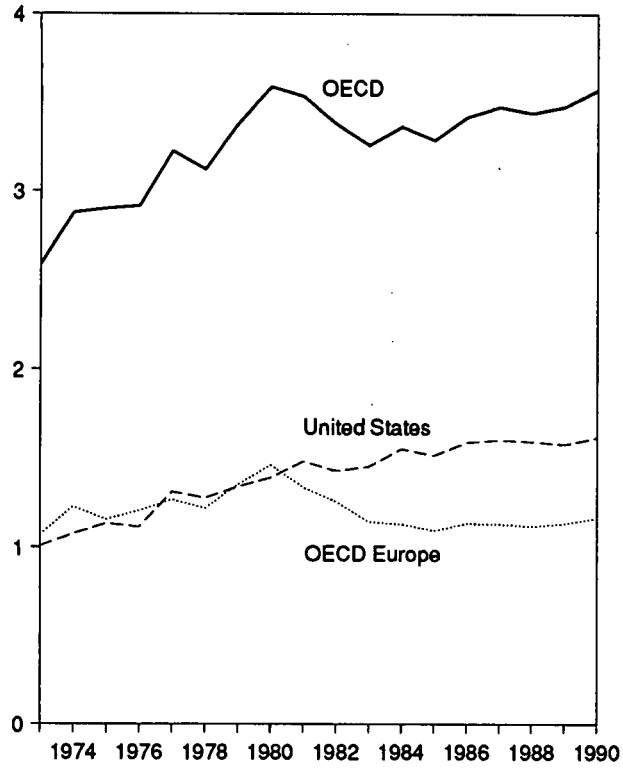
Notes: • The Organization for Economic Cooperation and Development (OECD) consists of Canada, Japan, and the United States, as well as "OECD Europe" and "Other OECD." • U.S. geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding. • Data through 1988 are final. Subsequent data are preliminary.

Sources: • **United States**—See Table 3.1a. • **All Other Data: 1973-1979**—International Energy Agency, *Annual Oil and Gas Statistics of OECD Countries*. **1980 forward**—International Energy Agency, quarterly and monthly computer tapes supporting *Quarterly Oil Statistics and Energy Balances of OECD Countries*.

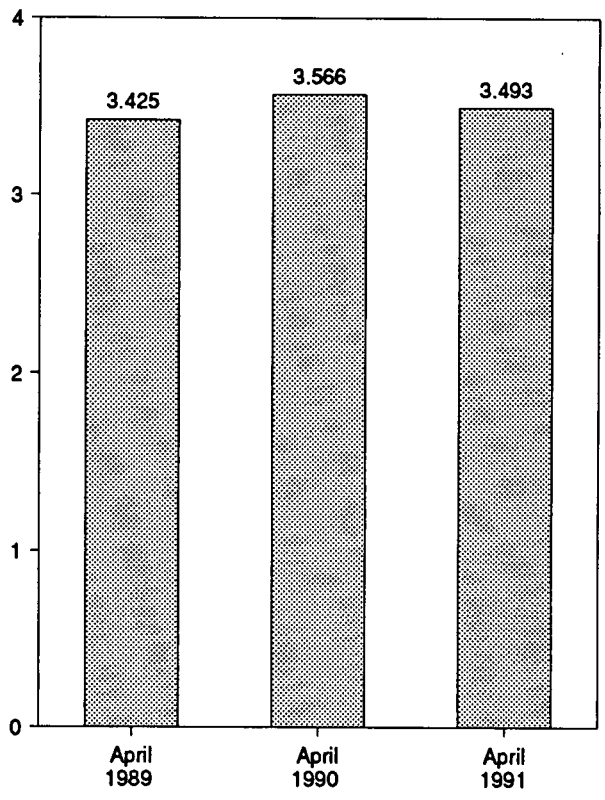
## Figure 10.4 Petroleum Stocks in OECD Countries

(Billion Barrels)

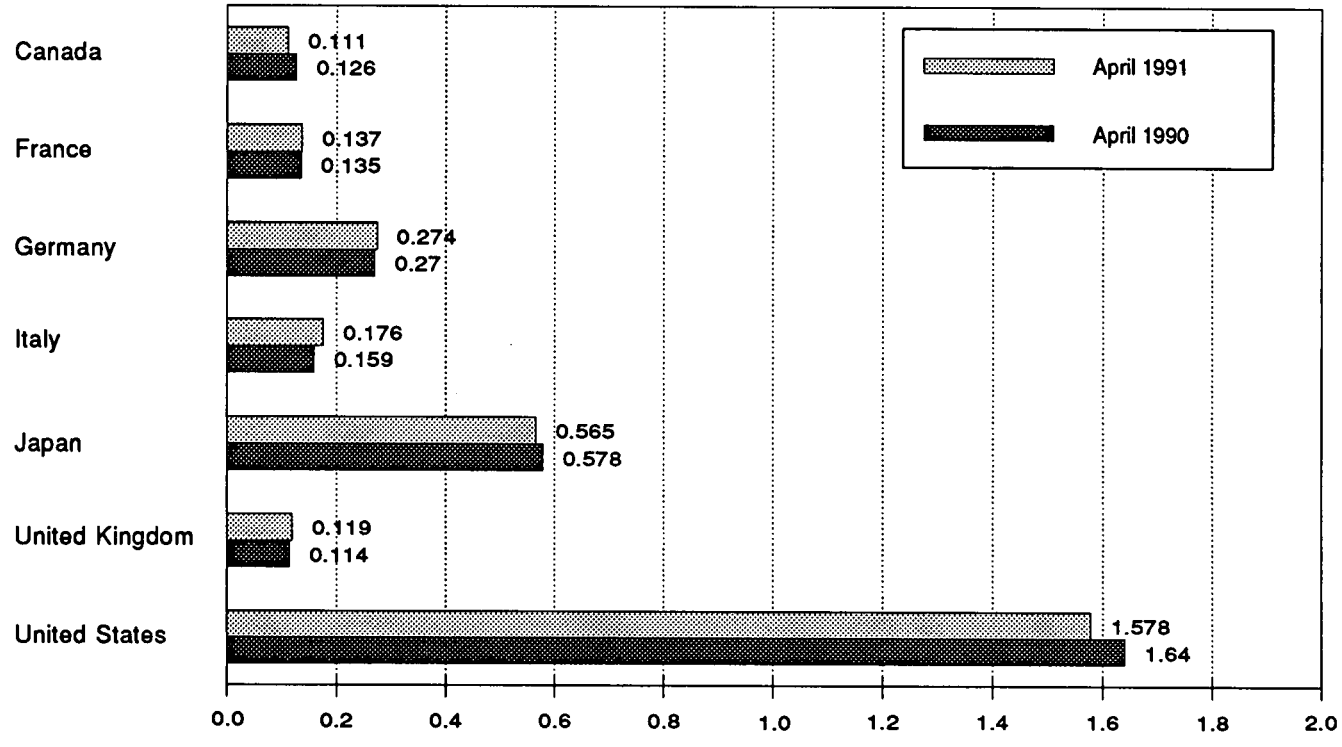
### OECD Stocks, End of Year, 1973-1990




### OECD Stocks, End of Month




### Stocks by Selected Country, End of Month




Note: OECD is the Organization for Economic Cooperation and Development.
Source: Table 10.3.

# Table 10.3 Petroleum Stocks in OECD Countries, End of Period

(Million Barrels)

| | Canada | France | Germany[a] | Italy | Japan | United Kingdom | United States | OECD Europe[b] | Other OECD[c] | OECD |
|---|---|---|---|---|---|---|---|---|---|---|
| **1973 Year** | **140** | **201** | **181** | **152** | **303** | **156** | **1,008** | **1,070** | **67** | **2,588** |
| **1974 Year** | **145** | **249** | **213** | **167** | **370** | **191** | **1,074** | **1,227** | **64** | **2,880** |
| **1975 Year** | **174** | **225** | **187** | **143** | **375** | **165** | **1,133** | **1,154** | **67** | **2,903** |
| **1976 Year** | **153** | **234** | **208** | **143** | **380** | **165** | **1,112** | **1,205** | **68** | **2,918** |
| **1977 Year** | **167** | **239** | **225** | **161** | **409** | **148** | **1,312** | **1,268** | **68** | **3,224** |
| **1978 Year** | **144** | **201** | **238** | **154** | **413** | **157** | **1,278** | **1,219** | **68** | **3,122** |
| **1979 Year** | **150** | **226** | **272** | **163** | **460** | **169** | **1,341** | **1,353** | **75** | **3,379** |
| **1980 Year** | **164** | **243** | **319** | **170** | **495** | **168** | **1,392** | **1,464** | **72** | **3,587** |
| **1981 Year** | **161** | **214** | **297** | **167** | **482** | **143** | **1,484** | **1,337** | **67** | **3,531** |
| **1982 Year** | **136** | **193** | **272** | **179** | **484** | **125** | **1,430** | **1,258** | **68** | **3,376** |
| **1983 Year** | **121** | **153** | **249** | **149** | **470** | **118** | **1,454** | **1,142** | **68** | **3,255** |
| **1984 Year** | **128** | **152** | **239** | **159** | **479** | **112** | **1,556** | **1,130** | **69** | **3,362** |
| **1985 Year** | **113** | **139** | **233** | **157** | **494** | **123** | **1,519** | **1,092** | **66** | **3,284** |
| **1986 Year** | **111** | **127** | **252** | **155** | **509** | **124** | **1,593** | **1,133** | **72** | **3,418** |
| **1987 Year** | **126** | **127** | **259** | **169** | **540** | **121** | **1,607** | **1,130** | **72** | **3,474** |
| **1988 Year** | **116** | **140** | **266** | **155** | **538** | **112** | **1,597** | **1,118** | **71** | **3,440** |
| **1989** January | 117 | 138 | 277 | 159 | 547 | 121 | 1,620 | 1,133 | 69 | 3,486 |
| February | 116 | 129 | 272 | 154 | 548 | 121 | 1,601 | 1,103 | 69 | 3,437 |
| March | 111 | 123 | 270 | 148 | 552 | 115 | 1,568 | 1,085 | 68 | 3,384 |
| April | 118 | 131 | 271 | 152 | 549 | 114 | 1,596 | 1,091 | 71 | 3,425 |
| May | 117 | 132 | 272 | 152 | 553 | 121 | 1,623 | 1,111 | 73 | 3,476 |
| June | 119 | 128 | 269 | 154 | 557 | 112 | 1,608 | 1,096 | 71 | 3,450 |
| July | 125 | 133 | 270 | 155 | 557 | 119 | 1,649 | 1,120 | 70 | 3,521 |
| August | 123 | 135 | 271 | 165 | 567 | 118 | 1,654 | 1,133 | 72 | 3,549 |
| September | 121 | 135 | 274 | 165 | 572 | 120 | 1,667 | 1,137 | 66 | 3,563 |
| October | 117 | 134 | 272 | 165 | 580 | 117 | 1,658 | 1,121 | 70 | 3,547 |
| November | 121 | 139 | 267 | 163 | 588 | 117 | 1,663 | 1,125 | 75 | 3,571 |
| December | **114** | **138** | **271** | **164** | **577** | **118** | **1,581** | **1,133** | **71** | **3,476** |
| **1990** January | 112 | 133 | 273 | 162 | 588 | 119 | 1,630 | 1,128 | 68 | 3,527 |
| February | 116 | 134 | 267 | 158 | 569 | 116 | 1,635 | 1,135 | 74 | 3,529 |
| March | 121 | 131 | 268 | 163 | 581 | 121 | 1,642 | 1,126 | 71 | 3,541 |
| April | 126 | 135 | 270 | 159 | 578 | 114 | 1,640 | 1,145 | 77 | 3,566 |
| May | 121 | 146 | 268 | 155 | 590 | 125 | 1,672 | 1,173 | 77 | 3,633 |
| June | 119 | 146 | 270 | 160 | 579 | 120 | 1,685 | 1,174 | 75 | 3,632 |
| July | 117 | 149 | 271 | 155 | 578 | 119 | 1,709 | 1,171 | 71 | 3,648 |
| August | 114 | 150 | 274 | 167 | 583 | 122 | 1,699 | 1,176 | 72 | 3,644 |
| September | 114 | 150 | 269 | 173 | 585 | 123 | 1,698 | 1,179 | 73 | 3,648 |
| October | 113 | 148 | 268 | 172 | 592 | 119 | 1,674 | 1,184 | 76 | 3,640 |
| November | 116 | 142 | 263 | 167 | 596 | 117 | 1,654 | 1,151 | 72 | 3,589 |
| December | **121** | **139** | **265** | **172** | **590** | **112** | **1,621** | **1,163** | **73** | **3,569** |
| **1991** January | 118 | 133 | 276 | 173 | 585 | 114 | 1,587 | 1,158 | 72 | 3,521 |
| February | 115 | 136 | 276 | 169 | 567 | 117 | 1,574 | R1,155 | 71 | R3,482 |
| March | 118 | 141 | 276 | 177 | 589 | 122 | 1,559 | 1,177 | 73 | 3,516 |
| April | 111 | 137 | 274 | 176 | 565 | 119 | 1,578 | 1,164 | 74 | 3,493 |

[a] Through December 1990, the data for Germany are for the former West Germany only. Beginning with January 1991, the data for Germany are for the unified Germany, i.e., the former East Germany and West Germany.

[b] "OECD Europe" consists of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, and the United Kingdom.

[c] "Other OECD" consists of Australia, New Zealand, and the U.S. Territories.

R=Revised data.

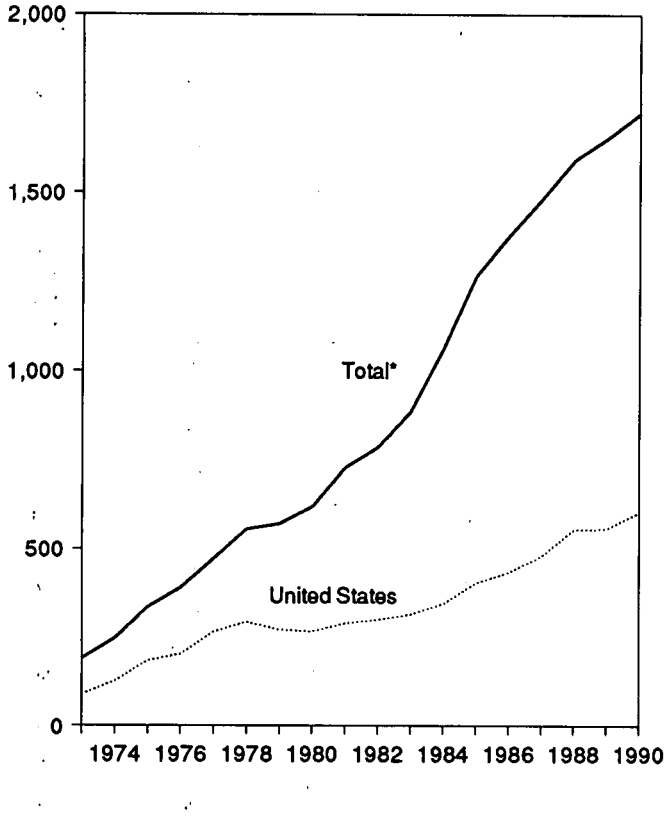
Notes: • Petroleum stocks include crude oil (including strategic reserves), unfinished oils, natural gas plant liquids, and refined products. Petroleum stocks include all nonmilitary petroleum held for storage, regardless of ownership, within each country in bulk terminals, refinery tanks, pipeline tankage, intercoastal tankers, tankers in port, and inland ship bunkers. Data exclude oil held in pipelines (except for the United States), rail and truck cars, sea-going ships' bunkers, service stations, retail stores, and tankers at sea. • The Organization for Economic Cooperation and Development (OECD) consists of Canada, Japan, and the United States, as well as "OECD Europe" and "Other OECD." • U.S. geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding. • In the United States in January 1975, 1981, and 1983, numerous respondents were added to bulk terminal and pipeline surveys affecting subsequent stocks reported. Using the new basis, the end-of-year U.S. stocks, in million barrels, would have been 1,121 in 1974, 1,425 in 1980, and 1,461 in 1982. • Data through 1988 are final. Subsequent data are preliminary.

Sources: • **United States**—See Table 3.1a. • **All Other Data**—International Energy Agency, quarterly and monthly computer tapes supporting *Quarterly Oil Statistics and Energy Balances of OECD Countries.*

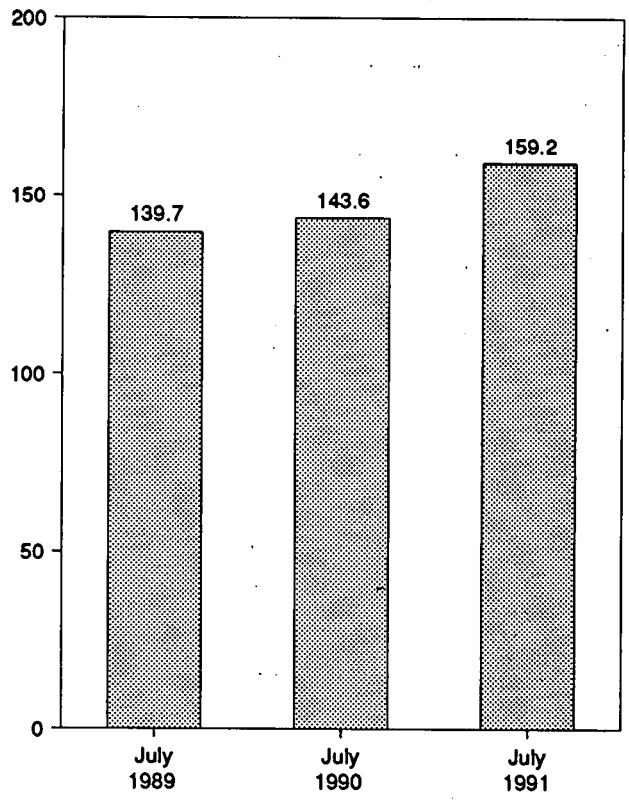
## Figure 10.5 Nuclear Electricity Gross Generation

(Billion Kilowatthours)

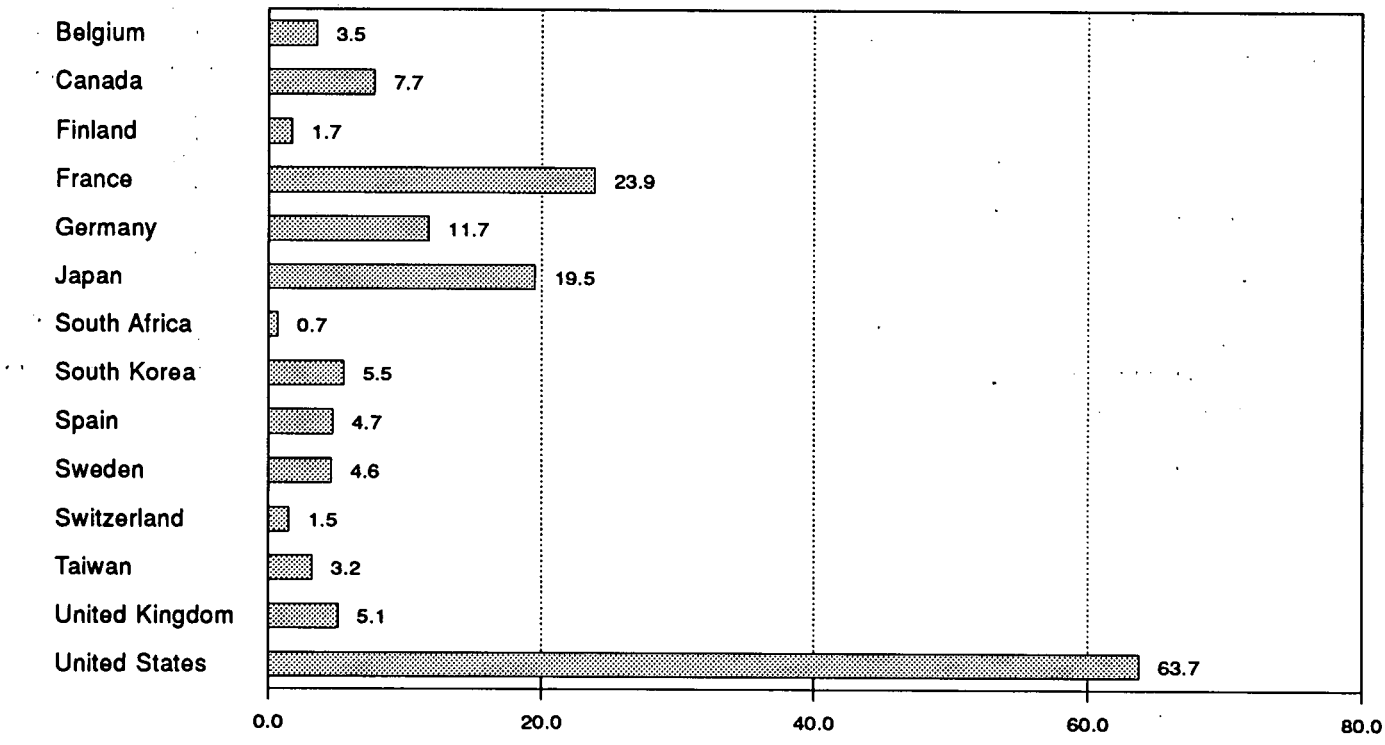
### U.S. and Total* Generation, 1973-1990




### Total* Generation




### Generation by Selected Country, July 1991




*Total equals nuclear-generated electricity from all countries except Bulgaria, China, Cuba, Czechoslovakia, Hungary, North Korea, Poland, Romania, U.S.S.R., and Yugoslavia.

Note: Because vertical scales differ, graphs should not be compared.

Sources: Tables 10.4a-10.4c.

# Table 10.4a Nuclear Electricity Gross Generation: Argentina Through India

(Billion Kilowatthours)

| | Argentina | Belgium | Brazil | Canada | Finland | France | Germany[a] | India |
|---|---|---|---|---|---|---|---|---|
| **1973 Total** | 0.0 | 0.0 | 0.0 | 15.3 | 0.0 | 14.7 | 11.9 | 2.5 |
| **1974 Total** | 1.0 | .1 | .0 | 15.4 | .0 | 14.7 | 12.0 | 1.9 |
| **1975 Total** | 2.5 | 6.8 | .0 | 13.2 | .0 | 18.3 | 21.7 | 2.5 |
| **1976 Total** | 2.6 | 10.0 | .0 | 18.0 | .0 | 15.8 | 24.5 | 3.2 |
| **1977 Total** | 1.6 | 11.9 | .0 | 26.6 | 2.7 | 17.9 | 36.0 | 2.8 |
| **1978 Total** | 2.9 | 12.5 | .0 | 33.0 | 3.3 | 30.6 | 35.7 | 2.3 |
| **1979 Total** | 2.7 | 11.4 | .0 | 38.4 | 6.7 | 39.9 | 42.2 | 3.2 |
| **1980 Total** | 2.3 | 12.5 | .0 | 40.4 | 7.0 | 61.2 | 43.7 | 2.9 |
| **1981 Total** | 2.8 | 12.8 | .0 | 43.3 | 14.5 | 105.2 | 53.4 | 3.1 |
| **1982 Total** | 1.9 | 15.6 | .1 | 42.6 | 16.5 | 108.9 | 63.4 | 2.2 |
| **1983 Total** | 3.4 | 24.1 | .2 | 53.0 | 17.4 | 144.2 | 65.8 | 2.9 |
| **1984 Total** | 4.5 | 27.7 | 2.1 | 53.8 | 18.5 | 191.2 | 92.6 | 4.1 |
| **1985 Total** | 5.8 | 34.5 | 3.4 | 62.9 | 18.8 | 224.0 | 125.8 | 4.5 |
| **1986 Total** | 5.7 | 38.6 | .1 | 74.6 | 18.8 | 254.3 | 118.9 | 5.1 |
| **1987 Total** | 5.2 | 41.9 | 1.0 | 80.6 | 19.4 | 265.5 | 130.2 | 5.5 |
| **1988 Total** | 5.1 | 43.1 | .3 | 85.6 | 19.3 | 274.9 | 145.2 | 6.1 |
| **1989** January | .5 | 4.1 | .2 | 8.1 | 1.8 | 30.5 | 13.5 | .3 |
| February | .4 | 3.4 | .2 | 6.9 | 1.6 | 27.1 | 13.5 | .3 |
| March | .5 | 3.6 | .2 | 7.7 | 1.8 | 27.8 | 14.8 | .3 |
| April | .4 | 3.0 | .3 | 7.3 | 1.7 | 25.5 | 13.4 | .4 |
| May | .5 | 3.0 | (s) | 6.2 | 1.2 | 23.2 | 11.1 | .4 |
| June | .5 | 3.0 | .2 | 5.8 | 1.6 | 23.9 | 9.6 | .4 |
| July | .5 | 3.2 | .2 | 7.1 | 1.4 | 23.7 | 8.7 | .3 |
| August | (s) | 3.7 | .0 | 6.9 | 1.5 | 21.0 | 11.4 | .2 |
| September | .5 | 3.3 | .2 | 6.6 | 1.3 | 22.6 | 11.4 | .3 |
| October | .5 | 3.6 | .0 | 6.6 | 1.4 | 24.6 | 13.5 | .4 |
| November | .5 | 3.6 | .0 | 6.3 | 1.7 | 24.9 | 14.2 | .5 |
| December | .4 | 3.6 | .0 | 7.6 | 1.8 | 27.8 | 14.4 | .4 |
| **Total** | 5.0 | 41.2 | 1.6 | 83.2 | 18.8 | 302.5 | 149.6 | 4.0 |
| **1990** January | .5 | 3.9 | .1 | 7.3 | 1.8 | 28.7 | 15.4 | .4 |
| February | .4 | 3.5 | .2 | 5.8 | 1.6 | 23.5 | 12.8 | .5 |
| March | .7 | 4.2 | .0 | 6.2 | 1.7 | 25.8 | 13.2 | .5 |
| April | .6 | 3.6 | .1 | 5.8 | 1.7 | 26.6 | 12.8 | .5 |
| May | .6 | 2.9 | .2 | 4.4 | 1.3 | 23.9 | 12.2 | .4 |
| June | .7 | 2.9 | .2 | 5.1 | 1.3 | 23.3 | 9.8 | .4 |
| July | .7 | 3.5 | .1 | 6.6 | 1.6 | 23.9 | 10.0 | .5 |
| August | .7 | 3.7 | .3 | 6.2 | 1.2 | 23.3 | 9.3 | .5 |
| September | .5 | 3.3 | .1 | 5.5 | 1.4 | 26.5 | 9.6 | .5 |
| October | .6 | 3.4 | .2 | 7.1 | 1.8 | 27.6 | 13.0 | .5 |
| November | .7 | 3.6 | .3 | 7.0 | 1.7 | 25.8 | 13.9 | .5 |
| December | .7 | 4.3 | .2 | 7.2 | 1.8 | 30.4 | 15.2 | .6 |
| **Total** | 7.4 | 42.7 | 2.0 | 75.8 | 18.9 | 316.4 | 147.2 | 5.9 |
| **1991** January | .6 | 4.2 | .2 | 7.6 | 1.8 | 33.5 | 15.2 | .5 |
| February | .6 | 3.9 | .2 | 7.4 | 1.6 | 30.0 | 13.6 | .4 |
| March | .6 | 4.2 | .2 | 7.8 | 1.8 | 28.4 | 14.3 | .6 |
| April | .7 | 3.5 | .2 | 6.7 | 1.4 | 25.3 | 12.5 | .4 |
| May | .7 | 3.4 | .2 | 6.7 | 1.5 | 25.3 | 10.6 | .4 |
| June | .7 | 2.9 | .2 | 7.1 | 1.6 | 23.6 | 10.0 | .4 |
| July | E.7 | 3.5 | .2 | 7.7 | 1.7 | 23.9 | 11.7 | .3 |
| **7-Month Total** | E4.7 | 25.6 | 1.4 | 51.0 | 11.4 | 190.0 | 87.8 | 3.1 |
| **1990 7-Month Total** | 4.2 | 24.5 | 1.0 | 41.2 | 11.0 | 175.8 | 86.2 | 3.3 |
| **1989 7-Month Total** | 3.2 | 23.3 | 1.4 | 49.1 | 11.1 | 181.7 | 84.7 | 2.2 |

See footnotes at end of Table 10.4c.

# Table 10.4b Nuclear Electricity Gross Generation: Italy Through Spain

(Billion Kilowatthours)

| | Italy | Japan | Mexico | Netherlands | Pakistan | South Africa | South Korea | Spain |
|---|---|---|---|---|---|---|---|---|
| **1973 Total** | 3.1 | 9.4 | 0.0 | 1.1 | 0.5 | 0.0 | 0.0 | 6.5 |
| **1974 Total** | 3.4 | 18.9 | .0 | 3.3 | .6 | .0 | .0 | 7.2 |
| **1975 Total** | 3.8 | 21.3 | .0 | 3.3 | .5 | .0 | .0 | 7.5 |
| **1976 Total** | 3.8 | 36.6 | .0 | 3.9 | .5 | .0 | .0 | 7.6 |
| **1977 Total** | 3.4 | 28.2 | .0 | 3.7 | .3 | .0 | .1 | 6.5 |
| **1978 Total** | 4.5 | 53.1 | .0 | 4.1 | .2 | .0 | 2.3 | 7.6 |
| **1979 Total** | 2.6 | 62.0 | .0 | 3.5 | (s) | .0 | 3.2 | 6.7 |
| **1980 Total** | 2.2 | 82.8 | .0 | 4.2 | .1 | .0 | 3.5 | 5.2 |
| **1981 Total** | 2.7 | 86.0 | .0 | 3.7 | .2 | .0 | 2.9 | 9.4 |
| **1982 Total** | 6.8 | 104.5 | .0 | 3.9 | .1 | .0 | 3.8 | 8.8 |
| **1983 Total** | 5.8 | 109.1 | .0 | 3.6 | .2 | .0 | 9.0 | 10.7 |
| **1984 Total** | 6.9 | 127.2 | .0 | 3.8 | .3 | 4.2 | 11.8 | 23.1 |
| **1985 Total** | 7.0 | 152.0 | .0 | 3.9 | .3 | 5.7 | 16.5 | 28.0 |
| **1986 Total** | 8.7 | 164.8 | .0 | 4.2 | .5 | 9.3 | 26.1 | 37.5 |
| **1987 Total** | .2 | 182.8 | .0 | 3.6 | .3 | 6.6 | 37.8 | 41.2 |
| **1988 Total** | .0 | 173.6 | .0 | 3.7 | .2 | 11.1 | 38.7 | 49.2 |
| **1989** January | .0 | 15.2 | .0 | .4 | .0 | 1.1 | 3.4 | 4.9 |
| February | .0 | 14.4 | .0 | (s) | .0 | .5 | 3.7 | 4.2 |
| March | .0 | 16.2 | .0 | .2 | .0 | .6 | 4.4 | 4.2 |
| April | .0 | 13.3 | .0 | .4 | .0 | .7 | 3.7 | 4.8 |
| May | .0 | 13.8 | .0 | .4 | .0 | .7 | 3.8 | 4.7 |
| June | .0 | 14.3 | .0 | .4 | .0 | 1.1 | 3.4 | 4.2 |
| July | .0 | 17.4 | .0 | .4 | .0 | 1.1 | 4.0 | 5.4 |
| August | .0 | 18.1 | .0 | .4 | .0 | 1.1 | 4.9 | 5.2 |
| September | .0 | 15.5 | .0 | .4 | .0 | 1.3 | 4.1 | 4.6 |
| October | .0 | 14.8 | .0 | .4 | (s) | 1.3 | 4.5 | 4.7 |
| November | .0 | 14.7 | .0 | .4 | (s) | 1.2 | 3.6 | 4.6 |
| December | .0 | 16.0 | .0 | .4 | (s) | 1.1 | 3.6 | 4.7 |
| **Total** | **.0** | **183.7** | **.0** | **4.0** | **.1** | **11.7** | **47.2** | **56.1** |
| **1990** January | .0 | 15.0 | .0 | .3 | (s) | .6 | 4.0 | 5.4 |
| February | .0 | 12.0 | .0 | (s) | (s) | .5 | 4.6 | 4.5 |
| March | .0 | 14.6 | .0 | (s) | (s) | .5 | 4.8 | 4.5 |
| April | .0 | 15.6 | .0 | (s) | (s) | .6 | 4.3 | 4.8 |
| May | .0 | 16.6 | .0 | .4 | .1 | 1.2 | 4.0 | 4.1 |
| June | .0 | 16.0 | .0 | .3 | .1 | 1.2 | 4.4 | 3.5 |
| July | .0 | 18.5 | .0 | .4 | .1 | 1.1 | 5.1 | 4.4 |
| August | .0 | 19.2 | .4 | .4 | .1 | .8 | 5.2 | 5.0 |
| September | .0 | 15.8 | .4 | .4 | (s) | .6 | 4.2 | 4.1 |
| October | .0 | 15.8 | .5 | .4 | .0 | .6 | 4.4 | 3.9 |
| November | .0 | 14.8 | .4 | .4 | (s) | .5 | 4.0 | 4.7 |
| December | .0 | 16.7 | .4 | .4 | (s) | .6 | 3.8 | 5.4 |
| **Total** | **.0** | **191.9** | **2.1** | **3.5** | **.4** | **8.9** | **52.9** | **54.2** |
| **1991** January | .0 | 18.0 | .5 | .3 | (s) | .6 | 4.1 | 5.3 |
| February | .0 | 14.0 | .4 | .2 | (s) | .5 | 4.5 | 4.6 |
| March | .0 | 15.6 | .5 | .1 | (s) | 1.1 | 4.5 | 4.3 |
| April | .0 | 13.4 | .5 | .2 | (s) | .7 | 4.1 | 4.2 |
| May | .0 | 12.6 | .5 | .4 | .1 | .7 | 4.1 | 4.8 |
| June | .0 | 14.8 | .4 | .4 | (s) | .6 | 4.8 | 4.4 |
| July | .0 | 19.5 | .4 | .4 | (s) | .7 | 5.5 | 4.7 |
| **7-Month Total** | **.0** | **107.9** | **3.2** | **2.0** | **.2** | **4.9** | **31.5** | **32.2** |
| **1990 7-Month Total** | **.0** | **108.4** | **.0** | **1.5** | **.2** | **5.8** | **31.3** | **31.2** |
| **1989 7-Month Total** | **.0** | **104.6** | **.0** | **2.1** | **.0** | **5.8** | **26.5** | **32.4** |

See footnotes at end of Table 10.4c.

# Table 10.4c Nuclear Electricity Gross Generation: Sweden Through United States and Total

(Billion Kilowatthours)

| | Sweden | Switzerland | Taiwan | United Kingdom[b] | Total[c] Excluding U.S. | United States | Total[c] |
|---|---|---|---|---|---|---|---|
| **1973 Total** | **2.1** | **6.2** | **0.0** | **28.2** | **101.4** | **87.8** | **189.3** |
| **1974 Total** | **2.3** | **7.0** | **.0** | **33.8** | **121.7** | **124.3** | **246.0** |
| **1975 Total** | **12.0** | **7.7** | **.0** | **30.5** | **151.8** | **182.3** | **334.1** |
| **1976 Total** | **16.0** | **7.9** | **.0** | **36.8** | **187.1** | **201.8** | **388.9** |
| **1977 Total** | **19.9** | **8.1** | **.1** | **38.1** | **207.8** | **264.2** | **472.0** |
| **1978 Total** | **23.8** | **8.3** | **2.7** | **36.6** | **263.5** | **292.4** | **555.9** |
| **1979 Total** | **21.0** | **11.8** | **6.3** | **38.5** | **300.1** | **270.6** | **570.7** |
| **1980 Total** | **26.7** | **14.3** | **8.2** | **37.2** | **354.3** | **265.4** | **619.8** |
| **1981 Total** | **37.7** | **15.2** | **10.7** | **38.9** | **442.4** | **288.5** | **730.9** |
| **1982 Total** | **38.8** | **15.0** | **13.1** | **44.1** | **489.9** | **298.6** | **788.5** |
| **1983 Total** | **40.4** | **15.5** | **18.9** | **49.6** | **573.9** | **313.6** | **887.5** |
| **1984 Total** | **51.3** | **16.3** | **24.3** | **54.1** | **717.7** | **343.8** | **1,061.5** |
| **1985 Total** | **58.6** | **22.4** | **28.7** | **59.6** | **862.4** | **402.6** | **1,265.0** |
| **1986 Total** | **69.9** | **22.5** | **26.9** | **58.2** | **944.8** | **432.9** | **1,377.8** |
| **1987 Total** | **67.2** | **23.0** | **33.1** | **56.2** | **1,001.2** | **479.5** | **1,480.7** |
| **1988 Total** | **69.4** | **22.7** | **29.9** | **59.4** | **1,037.5** | **554.1** | **1,591.6** |
| **1989** January | 7.2 | 2.3 | 2.4 | 6.8 | 102.7 | 48.7 | 151.4 |
| February | 6.5 | 2.1 | 1.8 | 6.3 | 92.9 | 40.8 | 133.7 |
| March | 6.7 | 2.3 | 1.7 | 6.7 | 99.8 | 41.8 | 141.6 |
| April | 5.6 | 2.2 | 2.2 | 5.9 | 90.9 | 35.3 | 126.2 |
| May | 3.9 | 2.0 | 2.1 | 5.7 | 82.7 | 40.8 | 123.5 |
| June | 3.3 | 1.2 | 2.0 | 6.7 | 81.6 | 45.1 | 126.7 |
| July | 2.6 | 1.1 | 2.7 | 4.8 | 84.4 | 55.2 | 139.7 |
| August | 3.3 | 1.0 | 2.9 | 4.8 | 86.4 | 57.6 | 144.0 |
| September | 5.0 | 1.9 | 2.5 | 6.6 | 88.2 | 47.0 | 135.2 |
| October | 6.8 | 2.3 | 2.7 | 5.2 | 93.2 | 45.7 | 138.8 |
| November | 7.0 | 2.2 | 2.6 | 5.3 | 93.2 | 45.6 | 138.8 |
| December | 7.5 | 2.3 | 2.8 | 6.9 | 101.3 | 53.3 | 154.6 |
| **Total** | **65.6** | **22.8** | **28.3** | **71.6** | **1,097.1** | **557.0** | **1,654.1** |
| **1990** January | 7.4 | 2.3 | 2.6 | 6.0 | 101.7 | 57.7 | 159.4 |
| February | 6.6 | 2.1 | 2.1 | 5.8 | 86.6 | 52.3 | 138.8 |
| March | 6.4 | 2.3 | 2.6 | 6.2 | 94.2 | 48.4 | 142.6 |
| April | 5.4 | 2.2 | 2.2 | 5.2 | 92.1 | 40.6 | 132.7 |
| May | 4.8 | 2.1 | 2.8 | 5.2 | 87.2 | 45.1 | 132.3 |
| June | 4.3 | 1.3 | 2.9 | 5.2 | 82.9 | 48.5 | 131.4 |
| July | 2.7 | 1.7 | 3.5 | 4.3 | 88.9 | 54.7 | 143.6 |
| August | 4.2 | 1.0 | 3.4 | 4.9 | 89.7 | 57.9 | 147.6 |
| September | 5.2 | 1.9 | 3.0 | 5.9 | 88.9 | 51.1 | 140.0 |
| October | 6.7 | 2.3 | 3.0 | 4.8 | 96.4 | 45.6 | 142.0 |
| November | 7.0 | 2.2 | 2.3 | 6.4 | 96.3 | 47.4 | 143.7 |
| December | 7.4 | 2.3 | 2.4 | 6.9 | 106.8 | 54.2 | 161.0 |
| **Total** | **68.2** | **23.6** | **32.9** | **66.6** | **1,121.5** | **603.4** | **1,724.9** |
| **1991** January | 7.6 | 2.3 | 2.4 | 6.4 | 111.1 | 56.6 | 167.7 |
| February | 6.9 | 2.1 | 2.2 | 6.7 | 99.8 | 50.2 | 150.0 |
| March | 7.6 | 2.3 | 2.9 | 6.7 | 103.3 | 51.6 | 154.9 |
| April | 6.9 | 2.2 | 2.5 | 5.0 | 90.3 | 43.8 | 134.1 |
| May | 5.7 | 2.0 | 2.8 | 4.5 | 86.8 | 49.2 | 136.0 |
| June | 4.7 | 1.1 | 3.2 | 6.1 | 87.0 | 56.9 | 143.9 |
| July | 4.6 | 1.5 | 3.2 | 5.1 | [E]95.4 | 63.7 | [E]159.2 |
| **7-Month Total** | **43.9** | **13.4** | **19.3** | **40.4** | **[E]673.8** | **372.0** | **[E]1,045.8** |
| **1990 7-Month Total** | **37.6** | **13.9** | **18.7** | **37.7** | **633.5** | **347.2** | **980.7** |
| **1989 7-Month Total** | **35.9** | **13.1** | **14.9** | **42.8** | **634.9** | **307.8** | **942.8** |

[a] Through December 1990, the data for Germany are for the former West Germany only. Beginning with January 1991, the data for Germany are for the unified Germany, i.e., the former East Germany and West Germany.

[b] Monthly data for the United Kingdom are totals for 4- or 5-week reporting periods, not calendar months.

[c] Total equals nuclear-generated electricity from all countries except Bulgaria, China, Cuba, Czechoslovakia, Hungary, North Korea, Poland, Romania, U.S.S.R., and Yugoslavia.

E=Estimate. (s)=Less than 0.05 billion kilowatthours.

Notes: • Net figures are generally less than gross figures by about 5 percent, the difference being the energy consumed by the generating plants themselves. • U.S. geographic coverage is the 50 States and the District of Columbia. • Monthly data may not sum to annual totals due to independent rounding, and precommercial generation is included in the annual totals but not in the monthly data. • Data for countries may not sum to world totals due to independent rounding.

Source: McGraw-Hill Publishing Company, *Nucleonics Week*.

# Appendix. Conversion Factors

## Using Conversion Factors

Physical conversion factors can be used to compare energy quantities expressed in units of volume and weight. For example, 6.65 barrels of crude oil weighs approximately 1 short ton, as indicated in Table A1.

However, the heat content of a "short ton" of crude oil is greater than the heat content of a short ton of coal. The heat content, measured in British thermal units (Btu), of a given quantity of energy can be calculated by using the thermal conversion factors presented in Tables A2 through A9.

Based on the thermal conversion factor shown for crude oil (production) in Table A3, a short ton of crude oil has a heat content of approximately 39 million Btu (6.65 barrels times 5.8 million Btu per barrel equals 38.57 million Btu). As calculated from the thermal conversion factor for coal (production) in Table A6, a short ton of coal in 1988 had a heat content of 22 million Btu (1 short ton times 21.823 million Btu per short ton equals 21.823 million Btu). In 1988, therefore, a short ton of crude oil had a heat content almost two times greater than a short ton of coal.

Thermal conversion factors for hydrocarbon mixes (Table A2) are weighted averages of the thermal conversion factors for each hydrocarbon included in the mix. For example, in calculating the thermal conversion factor for a 60/40 butane/propane mixture, the thermal conversion factor for butane is weighted 1.5 times more heavily than the thermal conversion factor for propane.

The thermal conversion factors in Tables A2 through A9 are computed from final annual data wherever possible. When the current year's final data are not yet available for publication, thermal conversion factors for the current year are computed from the best available data and are noted as "preliminary." Sources are described in the section entitled "Thermal Conversion Factor Source Documentation," which follows Table A9 in this appendix.

### Table A1. Physical Conversion Factors for Energy Units

| Unit | Equivalent | |
|---|---|---|
| **Crude Oil (Average Gravity)** | | |
| 1 U.S. barrel | 42 | U.S.gallons |
| 1 short ton | 6.65 | barrels |
| 1 metric ton | 7.33 | barrels |
| **Coal** | | |
| 1 short ton | 2,000 | pounds |
| 1 long ton | 2,240 | pounds |
| 1 metric ton | 2,204.62 | pounds |
| 1 metric ton | 1,000 | kilograms |
| **Uranium** | | |
| 1 short ton $U_3O_8$ | 0.769 | metric ton of uranium |
| 1 short ton $UF_6$ | 0.613 | metric ton of uranium |
| 1 metric ton $UF_6$ | 0.676 | metric ton of uranium |
| **Wood (Average Dry Hardwood)** | | |
| 1 cord | 1.25 | short tons |
| 1 cord | 128 | cubic feet |
| 1 cubic foot | 0.028 | cubic meters |

## Table A2. Approximate Heat Content of Petroleum Products
(Million Btu per Barrel)

| Petroleum Product | Heat Content | Petroleum Product | Heat Content |
|---|---|---|---|
| Asphalt | 6.636 | Petrochemical Feedstocks | |
| Aviation Gasoline | 5.048 | Naphtha Less Than 401 °F | 5.248 |
| Butane | 4.326 | Other Oils Equal to or Greater Than 401 °F | 5.825 |
| Butane-Propane Mixture[a] | 4.130 | Still Gas | 6.000 |
| Distillate Fuel Oil | 5.825 | Petroleum Coke | 6.024 |
| Ethane | 3.082 | Plant Condensate | 5.418 |
| Ethane-Propane Mixture[b] | 3.308 | Propane | 3.836 |
| Isobutane | 3.974 | Residual Fuel Oil | 6.287 |
| Jet Fuel, Kerosene Type | 5.670 | Road Oil | 6.636 |
| Jet Fuel, Naphtha Type | 5.355 | Special Naphthas | 5.248 |
| Kerosene | 5.670 | Still Gas | 6.000 |
| Lubricants | 6.065 | Unfinished Oils | 5.825 |
| Motor Gasoline | 5.253 | Unfractionated Stream | 5.418 |
| Natural Gasoline and Isopentane | 4.620 | Waxes | 5.537 |
| Pentanes Plus | 4.620 | Miscellaneous | 5.796 |

[a] 60 percent butane and 40 percent propane.
[b] 70 percent ethane and 30 percent propane.
Source: See "Thermal Conversion Factor Source Documentation," which follows Table A9.

## Table A3. Approximate Heat Content of Crude Oil, Crude Oil and Products, and Natural Gas Plant Liquids
(Million Btu per Barrel)

| | Crude Oil | | | Crude Oil and Products | | Natural Gas Plant Liquids |
|---|---|---|---|---|---|---|
| | Production | Imports | Exports | Imports | Exports | |
| 1973 | 5.800 | 5.817 | 5.800 | 5.897 | 5.752 | 4.049 |
| 1974 | 5.800 | 5.827 | 5.800 | 5.884 | 5.774 | 4.011 |
| 1975 | 5.800 | 5.821 | 5.800 | 5.858 | 5.748 | 3.984 |
| 1976 | 5.800 | 5.808 | 5.800 | 5.856 | 5.745 | 3.964 |
| 1977 | 5.800 | 5.810 | 5.800 | 5.834 | 5.797 | 3.941 |
| 1978 | 5.800 | 5.802 | 5.800 | 5.839 | 5.808 | 3.925 |
| 1979 | 5.800 | 5.810 | 5.800 | 5.810 | 5.832 | 3.955 |
| 1980 | 5.800 | 5.812 | 5.800 | 5.796 | 5.820 | 3.914 |
| 1981 | 5.800 | 5.818 | 5.800 | 5.775 | 5.821 | 3.930 |
| 1982 | 5.800 | 5.826 | 5.800 | 5.775 | 5.820 | 3.872 |
| 1983 | 5.800 | 5.825 | 5.800 | 5.774 | 5.800 | 3.839 |
| 1984 | 5.800 | 5.823 | 5.800 | 5.745 | 5.850 | 3.812 |
| 1985 | 5.800 | 5.832 | 5.800 | 5.736 | 5.814 | 3.815 |
| 1986 | 5.800 | 5.903 | 5.800 | 5.808 | 5.832 | 3.797 |
| 1987 | 5.800 | 5.901 | 5.800 | 5.820 | 5.858 | 3.804 |
| 1988 | 5.800 | 5.900 | 5.800 | 5.820 | 5.840 | 3.800 |
| 1989 | 5.800 | 5.906 | 5.800 | 5.833 | 5.857 | 3.826 |
| 1990[a] | 5.800 | 5.938 | 5.800 | 5.852 | 5.833 | 3.821 |
| 1991[a] | 5.800 | 5.938 | 5.800 | 5.852 | 5.833 | 3.821 |

[a] Preliminary.
Note: Crude oil includes lease condensate.
Source: See "Thermal Conversion Factor Source Documentation," which follows Table A9.

## Table A4. Approximate Heat Content of Petroleum Product Weighted Averages

(Million Btu per Barrel)

| | Consumption | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Residential and Commercial | Industrial | Transportation | Electric Utilities | Total | Imports | Exports | LPG Consumption |
| 1973 | 5.387 | 5.568 | 5.395 | 6.245 | 5.515 | 5.983 | 5.752 | 3.746 |
| 1974 | 5.377 | 5.538 | 5.394 | 6.238 | 5.504 | 5.959 | 5.773 | 3.730 |
| 1975 | 5.358 | 5.528 | 5.392 | 6.250 | 5.494 | 5.935 | 5.747 | 3.715 |
| 1976 | 5.383 | 5.538 | 5.395 | 6.251 | 5.504 | 5.980 | 5.743 | 3.711 |
| 1977 | 5.389 | 5.555 | 5.400 | 6.249 | 5.518 | 5.908 | 5.796 | 3.677 |
| 1978 | 5.382 | 5.553 | 5.404 | 6.251 | 5.519 | 5.955 | 5.814 | 3.669 |
| 1979 | 5.471 | 5.418 | 5.428 | 6.258 | 5.494 | 5.811 | 5.864 | 3.680 |
| 1980 | 5.468 | 5.376 | 5.440 | 6.254 | 5.479 | 5.748 | 5.841 | 3.674 |
| 1981 | 5.409 | 5.313 | 5.432 | 6.258 | 5.448 | 5.659 | 5.837 | 3.643 |
| 1982 | 5.392 | 5.263 | 5.422 | 6.258 | 5.415 | 5.664 | 5.829 | 3.615 |
| 1983 | 5.286 | 5.273 | 5.415 | 6.255 | 5.406 | 5.677 | 5.800 | 3.614 |
| 1984 | 5.261 | 5.253 | 5.424 | 6.251 | 5.395 | 5.613 | 5.867 | 3.599 |
| 1985 | 5.203 | 5.258 | 5.424 | 6.247 | 5.387 | 5.572 | 5.819 | 3.603 |
| 1986 | 5.238 | 5.330 | 5.425 | 6.257 | 5.418 | 5.624 | 5.839 | 3.640 |
| 1987 | 5.245 | 5.285 | 5.427 | 6.249 | 5.403 | 5.599 | 5.860 | 3.659 |
| 1988 | 5.216 | 5.293 | 5.430 | 6.250 | 5.410 | 5.618 | 5.842 | 3.652 |
| 1989 | 5.151 | 5.287 | 5.434 | 6.241 | 5.410 | 5.641 | 5.869 | 3.683 |
| 1990[a] | 5.142 | 5.321 | 5.437 | 6.247 | 5.411 | 5.614 | 5.838 | 3.625 |
| 1991[a] | 5.142 | 5.321 | 5.437 | 6.247 | 5.411 | 5.614 | 5.838 | 3.625 |

[a] Preliminary.
Note: Weighted averages of the products included in each category are calculated by using heat content values shown in Table A1.
Source: See "Thermal Conversion Factor Source Documentation," which follows Table A9.

## Table A5. Approximate Heat Content of Natural Gas

(Btu per Cubic Foot)

| | Production | | Consumption | | | | |
|---|---|---|---|---|---|---|---|
| | Dry | Marketed (Wet) | Non-Electric Utility Users | Electric Utilities | Total | Imports | Exports |
| 1973 | 1,021 | 1,093 | 1,020 | 1,024 | 1,021 | 1,026 | 1,023 |
| 1974 | 1,024 | 1,097 | 1,024 | 1,022 | 1,024 | 1,027 | 1,016 |
| 1975 | 1,021 | 1,095 | 1,020 | 1,026 | 1,021 | 1,026 | 1,014 |
| 1976 | 1,020 | 1,093 | 1,019 | 1,023 | 1,020 | 1,025 | 1,013 |
| 1977 | 1,021 | 1,093 | 1,019 | 1,029 | 1,021 | 1,026 | 1,013 |
| 1978 | 1,019 | 1,088 | 1,016 | 1,034 | 1,019 | 1,030 | 1,013 |
| 1979 | 1,021 | 1,092 | 1,018 | 1,035 | 1,021 | 1,037 | 1,013 |
| 1980 | 1,026 | 1,098 | 1,024 | 1,035 | 1,026 | 1,022 | 1,013 |
| 1981 | 1,027 | 1,103 | 1,025 | 1,035 | 1,027 | 1,014 | 1,011 |
| 1982 | 1,028 | 1,107 | 1,026 | 1,036 | 1,028 | 1,018 | 1,011 |
| 1983 | 1,031 | 1,115 | 1,031 | 1,030 | 1,031 | 1,024 | 1,010 |
| 1984 | 1,031 | 1,109 | 1,030 | 1,035 | 1,031 | 1,005 | 1,010 |
| 1985 | 1,032 | 1,112 | 1,031 | 1,038 | 1,032 | 1,002 | 1,011 |
| 1986 | 1,030 | 1,110 | 1,029 | 1,034 | 1,030 | 997 | 1,008 |
| 1987 | 1,031 | 1,112 | 1,031 | 1,032 | 1,031 | 999 | 1,011 |
| 1988 | 1,029 | 1,109 | 1,029 | 1,028 | 1,029 | 1,002 | 1,018 |
| 1989 | 1,031 | 1,107 | 1,030 | 1,034 | 1,031 | 1,004 | 1,019 |
| 1990[a] | 1,031 | 1,107 | 1,030 | 1,034 | 1,031 | 1,004 | 1,019 |
| 1991[a] | 1,031 | 1,107 | 1,030 | 1,034 | 1,031 | 1,004 | 1,019 |

[a] Preliminary.
Source: See "Thermal Conversion Factor Source Documentation," which follows Table A9.

## Table A6. Approximate Heat Content of Coal

(Million Btu per Short Ton)

| | Production | Consumption | | | | | Imports | Exports |
|---|---|---|---|---|---|---|---|---|
| | | Residential and Commercial | Coke Plants | Other Industrial[a] | Electric Utilities[b] | Total | | |
| 1973 | 23.376 | 22.831 | 26.780 | 22.586 | 22.246 | 23.057 | 25.000 | 26.596 |
| 1974 | 23.072 | 22.479 | 26.778 | 22.419 | 21.781 | 22.677 | 25.000 | 26.700 |
| 1975 | 22.897 | 22.261 | 26.782 | 22.436 | 21.642 | 22.506 | 25.000 | 26.562 |
| 1976 | 22.855 | 22.774 | 26.781 | 22.530 | 21.679 | 22.498 | 25.000 | 26.601 |
| 1977 | 22.597 | 22.919 | 26.787 | 22.322 | 21.508 | 22.265 | 25.000 | 26.548 |
| 1978 | 22.248 | 22.466 | 26.789 | 22.207 | 21.275 | 22.017 | 25.000 | 26.478 |
| 1979 | 22.454 | 22.242 | 26.788 | 22.452 | 21.364 | 22.100 | 25.000 | 26.548 |
| 1980 | 22.415 | 22.543 | 26.790 | 22.690 | 21.295 | 21.947 | 25.000 | 26.384 |
| 1981 | 22.308 | 22.474 | 26.794 | 22.585 | 21.085 | 21.713 | 25.000 | 26.160 |
| 1982 | 22.239 | 22.695 | 26.797 | 22.712 | 21.194 | 21.674 | 25.000 | 26.223 |
| 1983 | 22.052 | 22.775 | 26.798 | 22.691 | 21.133 | 21.576 | 25.000 | 26.291 |
| 1984 | 22.010 | 22.844 | 26.799 | 22.543 | 21.101 | 21.573 | 25.000 | 26.402 |
| 1985 | 21.870 | 22.646 | 26.798 | 22.020 | 20.959 | 21.366 | 25.000 | 26.307 |
| 1986 | 21.913 | 22.947 | 26.798 | 22.198 | 21.084 | 21.462 | 25.000 | 26.292 |
| 1987 | 21.922 | 23.404 | 26.799 | 22.381 | 21.136 | 21.517 | 25.000 | 26.291 |
| 1988 | 21.823 | 23.571 | 26.799 | 22.360 | 20.900 | 21.328 | 25.000 | 26.299 |
| 1989 | 21.765 | 23.650 | 26.800 | 22.347 | 20.848 | 21.272 | 25.000 | 26.160 |
| 1990[c] | 21.827 | 23.574 | 26.801 | 22.428 | 20.945 | 21.344 | 25.000 | 26.197 |
| 1991[c] | 21.827 | 23.574 | 26.801 | 22.428 | 20.945 | 21.344 | 25.000 | 26.197 |

[a] Includes transportation.
[b] Data shown in this column are not the same as those shown in the *Electric Power Monthly* (EPM). The EPM data report coal receipts; the data shown here represent coal consumption.
[c] Preliminary.
Source: See "Thermal Conversion Factor Source Documentation," which follows Table A9.

## Table A7. Approximate Heat Content of Bituminous Coal and Lignite

(Million Btu per Short Ton)

| | Production | Consumption | | | | | Imports | Exports |
|---|---|---|---|---|---|---|---|---|
| | | Residential and Commercial | Coke Plants | Other Industrial[a] | Electric Utilities | Total | | |
| 1973 | 23.391 | 22.887 | 26.800 | 22.585 | 22.262 | 23.073 | 25.000 | 26.612 |
| 1974 | 23.087 | 22.523 | 26.800 | 22.420 | 21.799 | 22.694 | 25.000 | 26.716 |
| 1975 | 22.910 | 22.258 | 26.800 | 22.439 | 21.659 | 22.522 | 25.000 | 26.573 |
| 1976 | 22.863 | 22.819 | 26.800 | 22.528 | 21.692 | 22.509 | 25.000 | 26.613 |
| 1977 | 22.597 | 22.594 | 26.800 | 22.290 | 21.521 | 22.266 | 25.000 | 26.561 |
| 1978 | 22.242 | 22.078 | 26.800 | 22.175 | 21.284 | 22.014 | 25.000 | 26.501 |
| 1979 | 22.449 | 21.884 | 26.800 | 22.436 | 21.372 | 22.100 | 25.000 | 26.570 |
| 1980 | 22.411 | 22.488 | 26.800 | 22.690 | 21.301 | 21.950 | 25.000 | 26.404 |
| 1981 | 22.301 | 22.010 | 26.800 | 22.572 | 21.091 | 21.710 | 25.000 | 26.176 |
| 1982 | 22.233 | 22.226 | 26.800 | 22.695 | 21.200 | 21.670 | 25.000 | 26.231 |
| 1983 | 22.048 | 22.438 | 26.800 | 22.680 | 21.141 | 21.576 | 25.000 | 26.300 |
| 1984 | 22.005 | 22.406 | 26.800 | 22.525 | 21.108 | 21.570 | 25.000 | 26.410 |
| 1985 | 21.867 | 22.568 | 26.800 | 22.013 | 20.965 | 21.368 | 25.000 | 26.320 |
| 1986 | 21.908 | 22.669 | 26.800 | 22.185 | 21.091 | 21.462 | 25.000 | 26.308 |
| 1987 | 21.918 | 22.800 | 26.800 | 22.360 | 21.143 | 21.514 | 25.000 | 26.304 |
| 1988 | 21.817 | 23.135 | 26.800 | 22.341 | 20.905 | 21.324 | 25.000 | 26.308 |
| 1989 | 21.759 | 22.917 | 26.800 | 22.324 | 20.854 | 21.268 | 25.000 | 26.166 |
| 1990[b] | 21.823 | 22.755 | 26.800 | 22.407 | 20.951 | 21.340 | 25.000 | 26.202 |
| 1991[b] | 21.823 | 22.755 | 26.800 | 22.407 | 20.951 | 21.340 | 25.000 | 26.202 |

[a] Includes transportation.
[b] Preliminary.
Source: See "Thermal Conversion Factor Source Documentation," which follows Table A9.

## Table A8. Approximate Heat Content of Anthracite and Coal Coke

(Million Btu per Short Ton)

| | Anthracite | | | | | Coal Coke Imports and Exports |
|---|---|---|---|---|---|---|
| | | Consumption | | | Imports and Exports | |
| | Production | Non-Electric Utility Users | Electric Utilities | Total | | |
| 1973 | 22.132 | 22.674 | 17.920 | 21.464 | 25.400 | 24.800 |
| 1974 | 21.711 | 22.330 | 17.200 | 20.919 | 25.400 | 24.800 |
| 1975 | 21.582 | 22.272 | 17.064 | 20.762 | 25.400 | 24.800 |
| 1976 | 22.045 | 22.618 | 17.526 | 21.254 | 25.400 | 24.800 |
| 1977 | 22.661 | 24.101 | 17.244 | 22.066 | 25.400 | 24.800 |
| 1978 | 23.079 | 24.388 | 17.104 | 22.398 | 25.400 | 24.800 |
| 1979 | 23.170 | 24.272 | 17.454 | 22.069 | 25.400 | 24.800 |
| 1980 | 22.869 | 22.719 | 17.652 | 21.405 | 25.400 | 24.800 |
| 1981 | 23.291 | 23.749 | 18.168 | 22.080 | 25.400 | 24.800 |
| 1982 | 23.289 | 24.578 | 18.160 | 22.518 | 25.400 | 24.800 |
| 1983 | 22.734 | 24.536 | 16.516 | 21.583 | 25.400 | 24.800 |
| 1984 | 23.107 | 25.128 | 17.018 | 22.322 | 25.400 | 24.800 |
| 1985 | 22.428 | 23.031 | 16.784 | 20.817 | 25.400 | 24.800 |
| 1986 | 23.084 | 24.399 | 15.578 | 21.512 | 25.400 | 24.800 |
| 1987 | 23.108 | 26.293 | 15.962 | 22.435 | 25.400 | 24.800 |
| 1988 | 23.266 | 26.021 | 17.312 | 22.423 | 25.400 | 24.800 |
| 1989 | 23.385 | 27.196 | 16.310 | 22.623 | 25.400 | 24.800 |
| 1990[a] | 23.385 | 27.751 | 16.108 | 22.731 | 25.400 | 24.800 |
| 1991[a] | 23.385 | 27.751 | 16.108 | 22.731 | 25.400 | 24.800 |

[a] Preliminary.
Source: See "Thermal Conversion Factor Source Documentation," which follows Table A9.

## Table A9. Approximate Heat Rates for Electricity

(Btu per Kilowatthour)

| | By Type of Generation | | | Electricity Consumption |
|---|---|---|---|---|
| | Fossil Fuel Steam-Electric Power Plant Generation[a] | Nuclear Power Plant Generation | Geothermal Energy Power Plant Generation | |
| 1973 | 10,389 | 10,903 | 21,674 | 3,412 |
| 1974 | 10,442 | 11,161 | 21,674 | 3,412 |
| 1975 | 10,406 | 11,013 | 21,611 | 3,412 |
| 1976 | 10,373 | 11,047 | 21,611 | 3,412 |
| 1977 | 10,435 | 10,769 | 21,611 | 3,412 |
| 1978 | 10,361 | 10,941 | 21,611 | 3,412 |
| 1979 | 10,353 | 10,879 | 21,545 | 3,412 |
| 1980 | 10,388 | 10,908 | 21,639 | 3,412 |
| 1981 | 10,453 | 11,030 | 21,639 | 3,412 |
| 1982 | 10,454 | 11,073 | 21,629 | 3,412 |
| 1983 | 10,520 | 10,905 | 21,290 | 3,412 |
| 1984 | 10,323 | 10,843 | 21,303 | 3,412 |
| 1985 | 10,339 | 10,813 | 21,263 | 3,412 |
| 1986 | 10,261 | 10,799 | 21,263 | 3,412 |
| 1987 | 10,253 | 10,776 | 21,263 | 3,412 |
| 1988 | 10,235 | 10,743 | 21,096 | 3,412 |
| 1989 | 10,331 | 10,724 | 21,096 | 3,412 |
| 1990[b] | 10,331 | 10,724 | 21,096 | 3,412 |
| 1991[b] | 10,331 | 10,724 | 21,096 | 3,412 |

[a] This thermal conversion factor is used for hydroelectric power generation and for wood and waste, wind, photovoltaic, and solar thermal energy consumed at electric utilities.
[b] Preliminary.
Source: See "Thermal Conversion Factor Source Documentation," which follows this table.

# Thermal Conversion Factor Source Documentation

## Approximate Heat Content of Petroleum Products

**Asphalt.** The Energy Information Administration (EIA) adopted the thermal conversion factor of 6.636 million British thermal units (Btu) per barrel as estimated by the Bureau of Mines and first published in the *Petroleum Statement, Annual, 1956.*

**Aviation Gasoline.** EIA adopted the Bureau of Mines thermal conversion factor of 5.048 million Btu per barrel as published for "Gasoline, Aviation" by the Texas Eastern Transmission Corporation in Appendix V of *Competition and Growth in American Energy Markets 1947-1985*, a 1968 release of historical and projected statistics.

**Butane.** EIA adopted the Bureau of Mines thermal conversion factor of 4.326 million Btu per barrel as published in the *California Oil World and Petroleum Industry*, First Issue, April 1942.

**Butane-Propane Mixture.** EIA adopted the Bureau of Mines calculation of 4.130 million Btu per barrel based on an assumed mixture of 60 percent butane and 40 percent propane. See "Butane" and "Propane."

**Distillate Fuel Oil.** EIA adopted the Bureau of Mines thermal conversion factor of 5.825 million Btu per barrel as reported in a Bureau of Mines internal memorandum, *Bureau of Mines Standard Average Heating Value of Various Fuels, adopted January 3, 1950.*

**Ethane.** EIA adopted the Bureau of Mines thermal conversion factor of 3.082 million Btu per barrel as published in the *California Oil World and Petroleum Industry*, First Issue, April 1942.

**Ethane-Propane Mixture.** EIA calculated 3.308 million Btu per barrel based on an assumed mixture of 70 percent ethane and 30 percent propane. See "Ethane" and "Propane."

**Isobutane.** EIA adopted the Bureau of Mines thermal conversion factor of 3.974 million Btu per barrel as published in the *California Oil World and Petroleum Industry*, First Issue, April 1942.

**Jet Fuel, Kerosene Type.** EIA adopted the Bureau of Mines thermal conversion factor of 5.670 million Btu per barrel as published for "Jet Fuel, Commercial" by the Texas Eastern Transmission Corporation in Appendix V of *Competition and Growth in American Energy Markets 1947-1985*, a 1968 release of historical and projected statistics.

**Jet Fuel, Naphtha Type.** EIA adopted the Bureau of Mines thermal conversion factor of 5.355 million Btu per barrel as published for "Jet Fuel, Military" by the Texas Eastern Transmission Corporation in Appendix V of *Competition and Growth in American Energy Markets 1947-1985*, a 1968 release of historical and projected statistics.

**Kerosene.** EIA adopted the Bureau of Mines thermal conversion factor of 5.670 million Btu per barrel as reported in a Bureau of Mines internal memorandum, *Bureau of Mines Standard Average Heating Values of Various Fuels, adopted January 3, 1950.*

**Lubricants.** EIA adopted the thermal conversion factor of 6.065 million Btu per barrel as estimated by the Bureau of Mines and first published in the *Petroleum Statement, Annual, 1956.*

**Miscellaneous Products.** EIA adopted the thermal conversion factor of 5.796 million Btu per barrel as estimated by the Bureau of Mines and first published in the *Petroleum Statement, Annual, 1956.*

**Motor Gasoline.** EIA adopted the Bureau of Mines thermal conversion factor of 5.253 million Btu per barrel as published for "Gasoline, Motor Fuel" by the Texas Eastern Transmission Corporation in Appendix V of *Competition and Growth in American Energy Markets 1947-1985*, a 1968 release of historical and projected statistics.

**Natural Gasoline.** EIA adopted the thermal conversion factor of 4.620 million Btu per barrel as estimated by the Bureau of Mines and first published in the *Petroleum Statement, Annual, 1956.*

**Pentanes Plus.** EIA assumed the thermal conversion factor to be 4.620 million Btu per barrel or equal to that for natural gasoline. See "Natural Gasoline."

**Petrochemical Feedstocks, Naphtha Less Than 401 Degrees Fahrenheit.** Assumed by EIA to be 5.248 million Btu per barrel, equal to the thermal conversion factor for special naphtha. See "Special Naphtha."

**Petrochemical Feedstocks, Oils Equal to or Greater Than 401 Degrees Fahrenheit.** Assumed by EIA to be 5.825 million Btu per barrel, equal to the thermal conversion factor for distillate fuel oil. See "Distillate Fuel Oil."

**Petrochemical Feedstocks, Still Gas.** Assumed by EIA to be 6.000 million Btu per barrel, equal to the thermal conversion factor for still gas. See "Still Gas."

**Petroleum Coke.** EIA adopted the thermal conversion factor of 6.024 million Btu per barrel as reported in Btu per short ton in the Bureau of Mines internal memorandum *Bureau of Mines Standard Average Heating Value of Various Fuels, adopted*

*January 3, 1950.* The Bureau of Mines calculated this factor by dividing the 30,120,000 Btu per short ton as given in the referenced Bureau of Mines internal memorandum by 5.0 barrels per short ton as given in the Bureau of Mines Form 6-1300-M and successor EIA forms.

**Plant Condensate.** Estimated to be 5.418 million Btu per barrel by EIA from data provided by McClanahan Consultants, Inc., Houston, Texas.

**Propane.** EIA adopted the Bureau of Mines thermal conversion factor of 3.836 million Btu per barrel as published in the *California Oil World and Petroleum Industry*, First Issue, April 1942.

**Residual Fuel Oil.** EIA adopted the thermal conversion factor of 6.287 million Btu per barrel as reported in the Bureau of Mines internal memorandum *Bureau of Mines Standard Average Heating Values of Various Fuels, adopted January 3, 1950.*

**Road Oil.** EIA adopted the Bureau of Mines thermal conversion factor of 6.636 million Btu per barrel, which was assumed to be equal to that of asphalt (see "Asphalt") and was first published by the Bureau of Mines in the *Petroleum Statement, Annual, 1970.*

**Special Naphtha.** EIA adopted the Bureau of Mines thermal conversion factor of 5.248 million Btu per barrel, which was assumed to be equal to that of total gasoline (aviation and motor) factor and was first published in the *Petroleum Statement, Annual, 1970.*

**Still Gas.** EIA adopted the Bureau of Mines estimated thermal conversion factor of 6.000 million Btu per barrel and first published in the *Petroleum Statement, Annual, 1970.*

**Unfinished Oil.** EIA assumed the thermal conversion factor to be 5.825 million Btu per barrel or equal to that for distillate fuel oil (see "Distillate Fuel Oil") and first published in the *Annual Report to Congress, Volume 3, 1977.*

**Unfractionated Stream.** EIA assumed the thermal conversion factor to be 5.418 million Btu per barrel or equal to that for plant condensate (see "Plant Condensate") and first published in the *Annual Report to Congress, Volume 2, 1981.*

**Waxes.** EIA adopted the thermal conversion factor of 5.537 million Btu per barrel as estimated by the Bureau of Mines and first published in the *Petroleum Statement, Annual, 1956.*

# Approximate Heat Content of Fuels

## Petroleum

**Crude Oil, Exports.** Assumed by EIA to be 5.800 million Btu per barrel or equal to the thermal conversion factor for crude oil produced in the United States. See Crude Oil and Lease Condensate, Production.

**Crude Oil, Imports.** Calculated annually by EIA by weighting the thermal conversion factor of each type of crude oil imported by the quantity imported. Thermal conversion factors for each type were calculated on a foreign country basis, by determining the average American Petroleum Institute (API) gravity of crude imported from each foreign country from Form ERA-60 in 1977 and converting average API gravity to average Btu content by using National Bureau of Standards, Miscellaneous Publication No. 97, *Thermal Properties of Petroleum Products*, 1933.

**Crude Oil and Lease Condensate, Production.** EIA adopted the thermal conversion factor of 5.800 million Btu per barrel as reported in a Bureau of Mines internal memorandum *Bureau of Mines Standard Average Heating Values of Various Fuels*, adopted January 3, 1950.

**Crude Oil and Petroleum Products, Exports.** Calculated annually by EIA as the average of the thermal conversion factors for each petroleum product exported and crude oil exported weighted by the quantity of each petroleum product and crude oil exported. See "Crude Oil, Exports" and "Petroleum Products, Exports."

**Crude Oil and Petroleum Products, Imports.** Calculated annually by EIA as the average of the thermal conversion factors for each petroleum product and each type of crude oil imported weighted by the quantity of each petroleum product and each type of crude oil imported. See "Crude Oil, Imports" and "Petroleum Products, Imports."

**Natural Gas Plant Liquids, Production.** Calculated annually by EIA as the average of the thermal conversion factors of each natural gas plant liquid produced weighted by the quantity of each natural gas plant liquid produced.

**Petroleum Products, Consumption.** Calculated annually by EIA as the average of the thermal conversion factors for all petroleum products consumed, weighted by the quantity of each petroleum product consumed.

**Petroleum Products, Consumption by Electric Utilities.** 1973-1989: Calculated annually by EIA as

the average of the thermal conversion factors for all petroleum products consumed at electric utilities, weighted by the quantity of each petroleum product consumed at electric utilities. The quantity of petroleum consumed is estimated in the State Energy Data System as documented in the *State Energy Data Report*. 1990 forward: EIA, Integrated Modeling Data System output for the *Monthly Energy Review* (March 1991).

**Petroleum Products, Consumption by Industrial Users.** 1973-1989: Calculated annually by EIA as the average of the thermal conversion factors for all petroleum products consumed in the industrial sector, weighted by the estimated quantity of each petroleum product consumed in the industrial sector. The quantity of petroleum products consumed is estimated in the State Energy Data System as documented in the *State Energy Data Report*. 1990 forward: EIA, Integrated Modeling Data System output for the *Monthly Energy Review* (March 1991).

**Petroleum Products, Consumption by Residential and Commercial Users.** 1973-1989: Calculated annually by EIA as the average of the thermal conversion factors for all petroleum products consumed by the residential and commercial sector, weighted by the estimated quantity of each petroleum product consumed in the residential and commercial sector. The quantity of petroleum products consumed is estimated in the State Energy Data System as documented in the *State Energy Data Report*. 1990 forward: EIA, Integrated Modeling Data System output for the *Monthly Energy Review* (March 1991).

**Petroleum Products, Consumption by Transportation Users.** 1973-1989: Calculated annually by EIA as the average of the thermal conversion factor for all petroleum products consumed in the transportation sector, weighted by the estimated quantity of each petroleum product consumed in the transportation sector. The quantity of petroleum products consumed is estimated in the State Energy Data System as documented in the *State Energy Data Report*. 1990 forward: EIA, Integrated Modeling Data System output for the *Monthly Energy Review* (March 1991).

**Petroleum Products, Exports.** Calculated annually by EIA as the average of the thermal conversion factors for each petroleum product, weighted by the quantity of each petroleum product exported.

**Petroleum Products, Imports.** Calculated annually by EIA as the average of the thermal conversion factors for each petroleum product imported, weighted by the quantity of each petroleum product imported.

**Petroleum Products, Liquefied Petroleum Gases (LPG) Consumption.** Calculated annually by EIA as the average of the thermal conversion factors of each liquefied petroleum gas consumed, weighted by the quantity of each liquefied petroleum gas consumed.

## Natural Gas

**Natural Gas, Consumption.** 1973-1979: EIA adopted the thermal conversion factor calculated annually by the American Gas Association (AGA) and published in *Gas Facts*, an AGA annual publication. 1980 forward: Calculated annually by EIA by dividing the total heat content of natural gas consumed by the total quantity of natural gas consumed. The heat content and quantity consumed are from Form EIA-176. Published sources are: 1980-1984: EIA *Natural Gas Annual 1988, Volume II*, Table 15. 1985-1989: EIA, *Natural Gas Annual 1989*, Table B1. 1990 forward: Estimated to be the same as in 1989.

**Natural Gas, Consumption by Electric Utilities.** Calculated annually by EIA by dividing the total heat content of natural gas received at electric utilities by the total quantity received at electric utilities. The heat contents and receipts are from Form FERC-423 and predecessor forms.

**Natural Gas, Consumption by Non-Electric Utility Users.** Calculated annually by EIA by dividing the heat content of natural gas consumed by non-electric utility consumers by the quantity of non-electric utility natural gas consumed. Data are from Forms EIA-176, FERC-423, EIA-759, and predecessor forms.

**Natural Gas, Exports.** Calculated annually by EIA by dividing the heat content of exported natural gas by the quantity of natural gas exported, both reported on Form FPC-14.

**Natural Gas, Imports.** Calculated annually by EIA by dividing the heat content of imported natural gas by the quantity of natural gas imported, both reported on Form FPC-14.

**Natural Gas Production, Dry.** Assumed by EIA to be equal to the thermal conversion factor for the consumption of dry natural gas. See "Natural Gas, Consumption."

**Natural Gas Production, Marketed (Wet).** Calculated annually by EIA by adding the heat content of dry natural gas production and the total heat content of natural gas plant liquids production and dividing this sum by the total quantity of marketed (wet) natural gas production.

## Coal and Coal Coke

**Anthracite, Consumption.** Calculated annually by EIA by dividing the sum of the heat content of anthracite consumed by electric utilities and

non-electric utilities by the total quantity of anthracite consumed.

**Anthracite, Consumption by Electric Utilities.** Calculated annually by EIA by dividing the heat content of anthracite receipts at electric utilities by the quantity of anthracite received at electric utilities. Heat contents and receipts are from Form FERC-423 and predecessor forms.

**Anthracite, Consumption by Non-Electric Utility Users.** Calculated annually by EIA by dividing the heat content of anthracite production less the heat content of the anthracite consumed at electric utilities, net exports, and shipments to U.S. Armed Forces overseas by the quantity of non-electric utility anthracite consumption less the quantity of anthracite stock changes, losses, and unaccounted for.

**Anthracite, Imports and Exports.** EIA assumed the anthracite imports and exports to be freshly mined anthracite having an estimated heat content of 25.40 million Btu per short ton.

**Anthracite, Production.** Calculated annually by EIA by dividing the sum of the heat content of freshly mined anthracite (estimated to have an average heat content of 25.400 million Btu per short ton) and the heat content of anthracite recovered from culm banks and river dredging (estimated to have a heat content of 17.500 million Btu per short ton) by the total quantity of anthracite production.

**Bituminous Coal and Lignite, Consumption.** Calculated annually by EIA by dividing the sum of the heat content of bituminous coal and lignite consumed by electric utilities, coal coke plants, other industrial plants, the residential and commercial sector, and the transportation sector by the sum of their respective tonnages.

**Bituminous Coal and Lignite, Consumption by Coke Plants.** Estimated by EIA to be 26.800 million Btu per short ton on the basis of an input/output analysis of coal carbonization.

**Bituminous Coal and Lignite, Consumption by Electric Utilities.** Calculated annually by EIA by dividing the total heat content of bituminous coal and lignite received at electric utilities by the total quantity received at electric utilities. Heat contents and receipts are from Form FERC-423 and predecessor forms.

**Bituminous Coal and Lignite, Consumption by Other Industrial and Transportation Users.** 1973: Calculated by EIA through regression analysis measuring the difference between the average Btu value of coal consumed by other industrial users and that of coal consumed at electric utilities in the 1974-1982 period. 1974 forward: Calculated annually by EIA by assuming that the bituminous coal and lignite delivered to other industrial users from each coal-producing area (reported on Form EIA-6 and predecessor Bureau of Mines Form 6-1419-Q) contained a heat value equal to that of bituminous coal and lignite received at electric utilities from each of the same coal-producing areas (reported on Form FERC-423). The average Btu value of coal by coal-producing area was applied to the volume of deliveries to other industrial users from each coal-producing area, and the sum total of the heat content was divided by the total volume of deliveries. Coal-producing areas are the Bureau of Mines coal-producing districts for 1974 through 1989 and coal-producing States for 1990 forward.

**Bituminous Coal and Lignite, Consumption by Residential and Commercial Users.** 1973: Calculated by EIA through regression analysis measuring the difference between the average Btu value of coal consumed by residential and commercial users and that of coal consumed by electric utilities in the 1974-1982 period. 1974 forward: Calculated annually by EIA by assuming that the bituminous coal and lignite delivered to residential and commercial users from each coal-producing area (reported on Form EIA-6 and predecessor Bureau of Mines Form 6-1419-Q) contained a heat value equal to that of bituminous coal and lignite received at electric utilities from each of the same coal-producing areas (reported on Form FERC-423). The average Btu value of coal by coal-producing area was applied to the volume of deliveries to residential and commercial users from each coal-producing area, and the total of the heat value was divided by the total volume of deliveries. Coal-producing areas are the Bureau of Mines coal-producing districts for 1974 through 1989 and coal-producing States for 1990 forward.

**Bituminous Coal and Lignite, Exports.** Calculated annually by EIA by dividing the sum of the heat content of exported metallurgical coal (estimated to average 27.000 million Btu per short ton) and the heat content of exported steam coal (estimated to have an average thermal content of 25.000 million Btu per short ton) by the total quantity of bituminous coal and lignite exported.

**Bituminous Coal and Lignite, Imports.** EIA estimated the average thermal conversion factor to be 25.000 million Btu per short ton.

**Bituminous Coal and Lignite, Production.** Calculated annually by EIA by dividing the sum of the heat content of bituminous coal and lignite consumption, net exports, stock changes, and unaccounted for by the sum of their respective tonnages. Consumers' stock changes by sectors were assumed to have the same conversion factor as that of the consumption sector. Producers' stock changes and unaccounted for were assumed to have the same conversion factor as that for consumption by all users.

**Coal, Consumption.** Calculated annually by EIA by dividing the sum of the heat content of bituminous coal and lignite and anthracite consumption by the sum of their respective tonnages.

**Coal, Consumption by Electric Utilities.** Calculated annually by EIA by dividing the sum of the heat content of bituminous coal and lignite and anthracite received at electric utilities by the sum of their respective tonnages received.

**Coal, Consumption by Non-Electric Utility Users.** Calculated annually by EIA by dividing the sum of the heat content of bituminous coal and lignite and anthracite consumed by non-electric utility users by the sum of their respective tonnages.

**Coal, Exports.** Calculated annually by EIA by dividing the sum of the heat content of bituminous coal and lignite and anthracite exported by the sum of their respective tonnages.

**Coal, Imports.** Calculated annually by EIA by dividing the sum of the heat content of bituminous coal and lignite and anthracite imported by the sum of their respective tonnages.

**Coal, Production.** Calculated annually by EIA by dividing the sum of the total heat content of bituminous coal and lignite and anthracite production by the sum of their respective tonnages.

**Coal Coke, Imports and Exports.** EIA adopted the Bureau of Mines estimate of 24.800 million Btu per short ton.

## Approximate Heat Rates for Electricity

**Fossil Fuel Steam-Electric Power Plant Generation.** There is no generally accepted practice for measuring the thermal conversion rates for power plants that generate electricity from hydroelectric, wood and waste, wind, photovoltaic, or solar thermal energy sources. EIA has selected a rate that is equal to the prevailing annual average heat rate factor for fossil-fueled steam-electric power plants in the United States. By using that factor, it is possible to evaluate fossil fuel requirements for replacing those sources during periods of interruption such as droughts. The heat content of a kilowatthour of electricity produced, regardless of the generation process, is 3,412 Btu per kilowatthour. 1973-1989: The weighted annual average heat rate for fossil-fueled steam-electric power plants in the United States, as published by EIA in *Electric Plant Cost and Power Production Expenses 1989*, Table 11. 1990 forward: Estimated to be the same as in 1989.

**Geothermal Energy Power Plant Generation.** 1973-1981: Calculated annually by EIA by weighting the average annual heat rates of operating geothermal units by the installed nameplate capacities as reported on Form FPC-12. 1982 forward: Estimated annually by EIA on the basis of an informal survey of relevant plants.

**Nuclear Power Plant Generation.** Calculated annually by EIA by dividing the total heat content consumed in reactors at nuclear plants by the total (net) electricity generated by nuclear plants. The heat content and electricity generation are reported on Form FERC-1, Form EIA-412, and predecessor forms. The factors, beginning with 1982 data, are published in the following EIA reports—1982: *Historical Plant Cost and Annual Production Expenses for Selected Electric Plants 1982*, page 215. 1983-1989: *Electric Plant Cost and Power Production Expenses 1989*, Table 15. 1990 forward: Estimated to be the same as in 1989.

# Glossary

**Anthracite:** A hard, black, lustrous coal containing a high percentage of fixed carbon and a low percentage of volatile matter. Often referred to as hard coal. It conforms to ASTM Specification D388-84 for anthracite, meta-anthracite, and semianthracite.

**Asphalt:** A dark-brown-to-black cement-like material containing bitumens as the predominant constituents obtained by petroleum processing. The definition includes crude asphalt as well as the following finished products: cements, fluxes, the asphalt content of emulsions (exclusive of water), and petroleum distillates blended with asphalt to make cutback asphalts.

**ASTM:** The American Society for Testing and Materials.

**Aviation Gasoline Blending Components:** Naphthas that are used for blending or compounding into finished aviation gasoline (e.g., straight-run gasoline, alkylate, and reformate). Excluded are oxygenates (alcohols and ethers), butane, and pentanes plus.

**Aviation Gasoline, Finished:** All special grades of gasoline for use in aviation reciprocating engines, as given in ASTM Specification D910 and Military Specification MIL-G-5572. Excludes blending components that will be used in blending or compounding into finished aviation gasoline.

**Barrel (petroleum):** A unit of volume equal to 42 U.S. gallons.

**Base (Cushion) Gas:** The volume of gas needed as a permanent inventory to maintain adequate underground storage reservoir pressures and deliverability rates throughout the withdrawal season. All native gas is included in the base gas volume.

**Bituminous Coal:** A dense black coal, often with well-defined bands of bright and dull material, with a moisture content usually less than 20 percent. Often referred to as soft coal. It is the most common coal and is used primarily for generating electricity, making coke, and space heating. It conforms to ASTM Specification D388-84 for bituminous coal.

**British Thermal Unit (Btu):** The quantity of heat needed to raise the temperature of 1 pound of water by 1° F at or near 39.2° F. See **Heat Content of a Quantity of Fuel, Gross** and **Heat Content of a Quantity of Fuel, Net.**

**Butane:** A normally gaseous straight-chain or branched-chain hydrocarbon ($C_4H_{10}$). It is extracted from natural gas or refinery gas streams. It includes isobutane and normal butane and is designated in ASTM Specification D1835 and Gas Processors Association Specifications for commercial butane.

*Isobutane:* A normally gaseous branched-chain hydrocarbon. It is a colorless paraffinic gas that boils at a temperature of 10.9° F. It is extracted from natural gas or refinery gas streams.
*Normal Butane:* A normally gaseous straight-chain hydrocarbon. It is a colorless paraffinic gas that boils at a temperature of 31.1° F. It is extracted from natural gas or refinery gas streams.

**Butylene:** An olefinic hydrocarbon ($C_4H_8$) recovered from refinery processes.

**Capacity Factor:** The ratio of the electrical energy produced by a generating unit for the period of time considered to the electrical energy that could have been produced at continuous full-power operation during the same period.

**CIF:** See **Cost, Insurance, Freight.**

**City Gate:** A point or measuring station at which a distribution gas utility receives gas from a natural gas pipeline company or transmission system.

**Coal:** A black or brownish-black solid, combustible substance formed by the partial decomposition of vegetable matter without access to air. The rank of coal, which includes anthracite, bituminous coal, subbituminous coal, and lignite, is based on fixed carbon, volatile matter, and heating value. Coal rank indicates the progressive alteration, or coalification, from lignite to anthracite. Lignite contains approximately 9 to 17 million Btu per ton. The heat contents of subbituminous and bituminous coal range from 16 to 24 million Btu per ton, and from 19 to 30 million Btu per ton, respectively. Anthracite contains approximately 22 to 28 million Btu per ton.

**Coal Coke:** A hard, porous product made from baking bituminous coal in ovens at temperatures as high as 2,000° F. It is used both as a fuel and as a reducing agent in smelting iron ore in a blast furnace.

**Commercial Sector:** The commercial sector, as defined economically, consists of business establishments that are not engaged in transportation or in manufacturing or other types of industrial activity (agriculture, mining, or construction). Commercial establishments include hotels, motels, restaurants, wholesale businesses, retail stores, laundries, and other service enterprises; religious and nonprofit organizations; health, social, and educational institutions; and Federal, State, and local governments. Street lights, pumps, bridges, and public services are also included if the establishment operating them is considered commercial. SIC codes used to classify an establishment as commercial are 50 through 87, 89, and 91 through 97.

**Completion:** The installation of permanent equipment for the production of oil or gas. If a well is equipped to produce only oil or gas from one zone or reservoir, the definition of a well (classified as an oil well or gas well) and the definition of a completion are identical. However, if a well is equipped to produce oil and/or gas separately from more than one reservoir, a well is not synonymous with a completion.

**Conversion Factor:** A number that translates units of one system into corresponding values of another system. Conversion factors can be used to translate physical units of measure for various fuels into Btu equivalents.

**Cost, Insurance, Freight (CIF):** A type of sale in which the buyer of the product agrees to pay a unit price that includes the f.o.b. value of the product at the point of origin plus all costs of insurance and transportation. This type of transaction differs from a "delivered" purchase in that the buyer accepts the quantity as determined at the loading port (as certified by the Bill of Loading and Quality Report) rather than pay on the basis of the quantity and quality ascertained at the unloading port. It is similar to the terms of an f.o.b. sale, except that the seller, as a service for which he is compensated, arranges for transportation and insurance.

**Crude Oil f.o.b. Price:** The crude oil price actually charged at the oil-producing country's port of loading. Includes deductions for any rebates and discounts or additions of premiums, where applicable. It is the actual price paid with no adjustment for credit terms.

**Crude Oil (Including Lease Condensate):** A mixture of hydrocarbons that exists in liquid phase in underground reservoirs and remains liquid at atmospheric pressure after passing through surface separating facilities. Included are lease condensate and liquid hydrocarbons produced from tar sands, gilsonite, and oil shale. Drip gases are also included, but topped crude oil (residual oil) and other unfinished oils are excluded. Where identifiable, liquids produced at natural gas processing plants and mixed with crude oil are likewise excluded.

**Crude Oil Landed Cost:** The price of crude oil at the port of discharge, including charges associated with the purchase, transporting, and insuring of a cargo from the purchase point to the port of discharge. Does not include charges incurred at the discharge port (e.g., import tariffs or fees, wharfage charges, and demurrage).

**Crude Oil Refinery Input:** The total crude oil put into processing units at refineries.

**Crude Oil Stocks:** Stocks of crude oil and lease condensate held at refineries, in pipelines, at pipeline terminals, and on leases.

**Crude Oil Used Directly:** Crude oil consumed as fuel by crude oil pipelines and on crude oil leases.

**Cubic Foot (natural gas):** A unit of volume equal to 1 cubic foot at a pressure base of 14.73 pounds standard per square inch absolute and a temperature base of 60° F.

**Degree-Day Normals:** Simple arithmetic averages of monthly or annual degree-days over a long period of time (usually the 30-year period 1951-1980). The averages may be simple degree-day normals or population-weighted degree-day normals.

**Degree-Days, Cooling (CDD):** The number of degrees per day that the daily average temperature is above 65 degrees Fahrenheit. The daily average temperature is the mean of the maximum and minimum temperatures for a 24-hour period.

**Degree-Days, Heating (HDD):** The number of degrees per day that the daily average temperature is below 65 degrees Fahrenheit. The daily average temperature is the mean of the maximum and minimum temperatures for a 24-hour period.

**Degree-Days, Population-Weighted:** Heating or cooling degree-days weighted by the population of the area in which the degree-days are recorded. To compute State population-weighted degree-days, each State is divided into from one to nine climatically homogeneous divisions, which are assigned weights based on the ratio of the population of the division to the total population of the State. Degree-day readings for each division are multiplied by the corresponding population weight for each division and those products are then summed to arrive at the State population-weighted degree-day figure. To compute national population-weighted degree-days, the Nation is divided into nine Census regions comprised of from three to eight States, which are assigned weights based on the ratio of the population of the region to the total population of the Nation. Degree-day readings for each region are multiplied by the corresponding population weight for each region and those products are then summed to arrive at the national population-weighted degree-day figure.

**Design Electrical Rating, Net:** The nominal net electrical output of a nuclear unit as specified by the electric utility for the purpose of plant design.

**Development Well:** A well drilled within the proved area of an oil or gas reservoir to the depth of a stratigraphic horizon known to be productive.

**Distillate Fuel Oil:** A general classification for one of the petroleum fractions produced in conventional distillation operations. Included are products known as No. 1, No. 2, and No. 4 fuel oils and No. 1, No. 2, and No. 4 diesel fuels. It is used primarily for space heating, on-and off-highway diesel engine fuel (including railroad engine fuel and fuel for agricultural machinery), and electric power generation.

**Dry Hole:** An exploratory or development well found to be incapable of producing either oil or gas in sufficient quantities to justify completion as an oil or gas well.

**Dry Natural Gas Production (as a decrement from gas reserves):** The volume of natural gas withdrawn from reservoirs during the report year less (1) the volume returned to such reservoirs in cycling, repressuring of oil reservoirs, and conservation operations; (2) shrinkage resulting from the removal of lease condensate and plant liquids; and (3) nonhydrocarbon gases, where they occur in sufficient quantity to render the gas unmarketable. Volumes of gas withdrawn from gas storage reservoirs and native gas that has been transferred to the storage category are not considered production. This is not the same as marketed production, since the latter also excludes vented and flared gas but contains liquids.

**Dry Natural Gas Production (as an increment to gas supply):** Gross withdrawals from production reservoirs less gas used in reservoir repressuring, amounts vented and flared, nonhydrocarbons removed, and various natural gas constituents, such as ethane, propane, and butane, removed at natural gas processing plants. The parameters for measurement are 60° F and 14.73 pounds standard per square inch absolute.

**Electrical System Energy Losses:** The amount of energy lost during generation, transmission, and distribution of electricity, including plant and unaccounted-for uses.

**Electricity Generation:** The process of producing electric energy or transforming other forms of energy into electric energy. Also the amount of electric energy produced or expressed in watthours (Wh).

**Electricity Generation, Gross:** The total amount of electric energy produced by the generating station or stations, measured at the generator terminals.

**Electricity Generation, Net:** Gross generation less electricity consumed at the generating plant for station use. Electricity required for pumping at pumped-storage plants is regarded as plant use and is deducted from gross generation.

**Electricity Production:** Net electricity (gross electricity output measured at generator terminals minus power plant use) generated by publicly and privately owned electric utilities. Excludes industrial electricity generation (except autogeneration of hydroelectric power).

**Electricity Sales:** The amount of kilowatthours sold in a given period of time; usually grouped by classes of service, such as residential, commercial, industrial, and other. "Other" sales include sales for public street and highway lighting and other sales to public authorities, sales to railroads and railways, and interdepartmental sales.

**Electric Power Plant:** A station containing prime movers, electric generators, and auxiliary equipment for converting mechanical, chemical, and/or fission energy into electric energy.

**Electric Utilities:** All privately owned companies and all publicly owned agencies engaged in the generation, transmission, or distribution of electric power for public use. Publicly owned agencies include municipal electric utilities; Federal power projects, such as the Tennessee Valley Authority (TVA); rural electrification cooperatives; power districts; and State power projects.

**Electric Utility:** A corporation, person, agency, authority, or other legal entity or instrumentality that owns and/or operates facilities within the United States, its territories, or Puerto Rico for the generation, transmission, distribution, or sale of electric energy, primarily for use by the public. An entity that solely operates qualifying facilities under the Public Utility Regulatory Policies Act of 1978 is not considered an electric utility.

**Electric Utility Sector:** Privately and publicly owned establishments that generate electricity primarily for use by the public.

**End-Use Sectors:** The residential, commercial, industrial, and transportation sectors of the economy.

**Energy:** The capacity for doing work as measured by the capability of doing work (potential energy) or the conversion of this capability to motion (kinetic energy). Energy has several forms, some of which are easily convertible and can be changed to another form useful for work. Most of the world's convertible energy comes from fossil fuels that are burned to produce heat that is then used as a transfer medium to mechanical or other means in order to accomplish tasks. Electrical energy is usually measured in

kilowatthours, while heat energy is usually measured in British thermal units.

**Energy Consumption:** The use of energy as a source of heat or power or as an input in the manufacturing process.

**Energy Consumption, End-Use:** The sum of fossil fuel consumption by the four end-use sectors (residential, commercial, industrial, and transportation) plus electric utility sales to those sectors and generation of hydroelectric power by nonelectric utilities. Net end-use energy consumption excludes electrical system energy losses. Total end-use energy consumption includes electrical system energy losses.

**Energy Consumption, Total:** The sum of fossil fuel consumption by the five sectors (residential, commercial, industrial, transportation, and electric utility) plus hydroelectric power, nuclear electric power, net imports of coal coke, and electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy.

**Energy Source:** A substance, such as petroleum, natural gas, or coal, that supplies heat or power. In Energy Information Administration reports, electricity and renewable forms of energy, such as biomass, geothermal, wind, and solar, are considered to be energy sources.

**Ethane:** A normally gaseous straight-chain hydrocarbon ($C_2H_6$). It is a colorless, paraffinic gas that boils at a temperature of -127.48° F. It is extracted from natural gas and refinery gas streams.

**Ethylene:** An olefinic hydrocarbon ($C_2H_4$) recovered from refinery processes or petrochemical processes.

**Exploratory Well:** A well drilled to find and produce oil or gas in an unproved area, to find a new reservoir in a field previously found to be productive of oil or gas in another reservoir, or to extend the limit of a known oil or gas reservoir.

**Exports:** Shipments of goods from the 50 States and the District of Columbia to foreign countries and to Puerto Rico, the Virgin Islands, and other U.S. possessions and territories.

**f.a.s.:** See **Free Alongside Ship.**

**Federal Energy Regulatory Commission (FERC):** The Federal agency with jurisdiction over interstate electricity sales, wholesale electric rates, hydroelectric licensing, natural gas pricing, oil pipeline rates, and gas pipeline certification. FERC is an independent regulatory agency within the Department of Energy and is the successor to the Federal Power Commission.

**Federal Power Commission (FPC):** The predecessor agency of the Federal Energy Regulatory Commission. The Federal Power Commission was created by an Act of Congress under the Federal Water Power Act on June 10, 1920. It was charged originally with regulating the electric power and natural gas industries. It was abolished on September 30, 1977, when the Department of Energy was created. Its functions were divided between the Department of Energy and the Federal Energy Regulatory Commission, an independent regulatory agency.

**First Purchase Price:** The marketed first sales price of domestic crude oil, consistent with the removal price defined by the provisions of the Windfall Profits Tax on Domestic Crude Oil (Public Law 96-223, Sec. 4998 (c)).

**Flared Natural Gas:** Natural gas burned in flares on the base site or at gas processing plants.

**f.o.b.:** See **Free On Board.**

**Footage Drilled:** Total footage for wells in various categories, as reported for any specified period, includes (1) the deepest total depth (length of well bores) of all wells drilled from the surface, (2) the total of all bypassed footage drilled in connection with reported wells, and (3) all new footage drilled for directional sidetrack wells. Footage reported for directional sidetrack wells does not include footage in the common bore, which is reported as footage for the original well. In the case of old wells drilled deeper, the reported footage is that which was drilled below the total depth of the old well.

**Fossil Fuel:** Any naturally occurring organic fuel, such as petroleum, coal, and natural gas.

**Fossil Fuel Steam-Electric Power Plant:** An electricity generation plant in which the prime mover is a turbine rotated by high-pressure steam produced in a boiler by heat from burning fossil fuels.

**Free Alongside Ship (f.a.s.):** The value of a commodity at the port of exportation, generally including the purchase price, plus all charges incurred in placing the commodity alongside the carrier at the port of exportation.

**Free on Board (f.o.b.):** A transaction whereby the seller makes the product available within an agreed-on period at a given port at a given price. It is the responsibility of the buyer to arrange for the transportation and insurance.

**Full-Power Operation:** Operation of a nuclear generating unit at 100 percent of its design capacity. Full-power operation precedes commercial operation.

**Gasohol:** A blend of finished motor gasoline (leaded or unleaded) and alcohol (generally ethanol but

sometimes methanol) limited to 10 percent by volume of alcohol. Gasohol is included in finished leaded and unleaded motor gasoline.

**Gas-Turbine Electric Power Plant:** A plant in which the prime mover is a gas turbine. A gas turbine typically consists of an axial-flow air compressor, one or more combustion chambers where liquid or gaseous fuel is burned and the hot gases expand to drive the generator and then are used to run the compressor.

**Gas Well:** A well completed for the production of natural gas from one or more gas zones or reservoirs. (Wells producing both crude oil and natural gas are classified as oil wells.)

**Geothermal Energy:** Energy from the internal heat of the Earth, which may be residual heat, friction heat, or a result of radioactive decay. The heat is found in rocks and fluids at various depths and can be extracted by drilling and/or pumping.

**Geothermal Energy (as used at electric utilities):** Hot water or steam extracted from geothermal reservoirs in the Earth's crust that is supplied to steam turbines at electric utilities that drive generators to produce electricity.

**Gross National Product (GNP):** The total value of goods and services produced by the Nation's economy, before deduction of depreciation charges and other allowances for capital consumption. It includes the total purchases of goods and services by private consumers and government, gross private domestic capital investment, and net foreign trade.

**Heat Content of a Quantity of Fuel, Gross:** The total amount of heat released when a fuel is burned. Coal, crude oil, and natural gas all include chemical compounds of carbon and hydrogen. When those fuels are burned, the carbon and hydrogen combine with oxygen in the air to produce carbon dioxide and water. Some of the energy released in burning goes into transforming the water into steam and is usually lost. The amount of heat spent in transforming the water into steam is counted as part of gross heat content but is not counted as part of net heat content. Also referred to as the higher heating value. Btu conversion factors typically used in EIA represent gross heat content.

**Heat Content of a Quantity of Fuel, Net:** The amount of useable heat energy released when a fuel is burned under conditions similar to those in which it is normally used. Also referred to as the lower heating value. Btu conversion factors typically used in EIA represent gross heat content.

**Heavy Oil:** The fuel oils remaining after the lighter oils have been distilled off during the refining process. Except for start-up and flame stabilization, virtually all petroleum used in steam-electric power plants is heavy oil.

**Hydrocarbon:** An organic chemical compound of hydrogen and carbon in the gaseous, liquid, or solid phase. The molecular structure of hydrocarbon compounds varies from the simplest (methane, the primary constituent of natural gas) to the very heavy and very complex.

**Hydroelectric Power:** The production of electricity from the kinetic energy of falling water.

**Hydroelectric Power Plant:** A plant in which the turbine generators are driven by falling water.

**Imports:** Receipts of goods into the 50 States and the District of Columbia from foreign countries and from Puerto Rico, the Virgin Islands, and other U.S. possessions and territories.

**Industrial Sector:** The industrial sector comprises manufacturing industries which make up the largest part of the sector along with mining, construction, agriculture, fisheries, and forestry. Establishments in the sector range from steel mills, to small farms, to companies assembling electronic components. The SIC codes used to classify establishments as industrial are 1 through 39.

**Internal Combustion Electric Power Plant:** A power plant in which the prime mover is an internal combustion engine. Diesel or gas-fired engines are the principal types used in electric power plants. The plant is usually operated during periods of high demand for electricity.

**Jet Fuel:** The term includes kerosene-type jet fuel and naphtha-type jet fuel. Kerosene-type jet fuel is a kerosene-quality product used primarily for commercial turbojet and turboprop aircraft engines. Naphtha-type jet fuel is a fuel in the heavy naphthas range used primarily for military turbojet and turboprop aircraft engines.

**Kerosene:** A petroleum distillate that has a maximum distillation temperature of 401° F at the 10-percent recovery point, a final boiling point of 572° F, and a minimum flash point of 100° F. Included are the two grades designated in ASTM D3699 (No. 1-K and No. 2-K) and all grades of kerosene called range or stove oil. Kerosene is used in space heaters, cook stoves, and water heaters; it is suitable for use as an illuminant when burned in wick lamps.

**Lease and Plant Fuel:** Natural gas used in well, field, and lease operations (such as gas used in drilling operations, heaters, dehydrators, and field compressors), and as fuel in natural gas processing plants.

**Lease Condensate:** A natural gas liquid recovered from gas well gas (associated and non-associated) in lease separators or natural gas field facilities. Lease condensate consists primarily of pentanes and heavier hydrocarbons.

**Light Oil:** Lighter fuel oils distilled off during the refining process. Virtually all petroleum used in internal combustion and gas-turbine engines is light oil.

**Lignite:** A brownish-black coal of low rank with a high content of moisture and volatile matter. Often referred to as brown coal. It is used almost exclusively for electric power generation. It conforms to ASTM Specification D388-84 for lignite.

**Liquefied Natural Gas (LNG):** Natural gas (primarily methane) that has been liquefied by reducing its temperature to -260° F at atmospheric pressure.

**Liquefied Petroleum Gases (LPG):** Ethane, ethylene, propane, propylene, normal butane, butylene, and isobutane produced at refineries or natural gas processing plants, including plants that fractionate new natural gas plant liquids.

**Low-Power Testing:** The period of time between a nuclear generating unit's initial fuel loading date and the issuance of its operating (full-power) license. The maximum level of operation during that period is 5 percent of the unit's design thermal rating.

**Lubricants:** Substances used to reduce friction between bearing surfaces or as process materials either incorporated into other materials used as processing aids in the manufacturing of other products or as carriers of other materials. Petroleum lubricants may be produced either from distillates or residues. Other substances may be added to impart or improve certain required properties. Excluded are byproducts of lubricating oil refining, such as aromatic extracts derived from solvent extraction or tars derived from deasphalting. Included are all grades of lubricating oils from spindle oil to cylinder oil and those used in greases. Lubricants categories are paraffinic and naphthenic.

**Miscellaneous Petroleum Products:** All finished petroleum products not classified elsewhere—for example, petrolatum, lube refining byproducts (aromatic extracts and tars), absorption oils, ram-jet fuel, petroleum rocket fuels, synthetic natural gas feedstocks, and specialty oils.

**Motor Gasoline Blending Components:** Naphthas that will be used for blending or compounding into finished motor gasoline (e.g., straight-run gasoline, alkylate, and reformate). Excluded are oxygenates (alcohols and ethers), butane, and pentanes plus.

**Motor Gasoline, Finished:** A complex mixture of relatively volatile hydrocarbons, with or without small quantities of additives, that has been blended to form a fuel suitable for use in spark-ignition engines. Motor gasoline, as given in ASTM Specification D439 or Federal Specification VV-G-1690B, includes a range in distillation temperatures from 122 to 158° F at the 10-percent recovery point and from 365 to 374° F at the 90-percent recovery point. The Reid Vapor Pressure ranges from 9 to 15 pounds per square inch. Motor gasoline includes finished leaded gasoline, finished unleaded gasoline, and gasohol. Blendstock is excluded until blending has been completed. Alcohol that is to be used in the blending of gasohol is also excluded.

**Motor Gasoline, Finished Gasohol:** A blend of finished motor gasoline (leaded or unleaded) and alcohol (generally ethanol, but sometimes methanol) in which 10 percent or more of the product is alcohol.

**Motor Gasoline, Finished Leaded:** Motor gasoline that contains more than 0.05 gram of lead per gallon or more than 0.005 gram of phosphorus per gallon. Premium and regular grades are included, depending on the octane rating. Includes leaded gasohol. Blendstock is excluded until blending has been completed. Alcohol that is to be used in the blending of gasohol is also excluded.

**Motor Gasoline, Finished Leaded Premium:** Motor gasoline having an antiknock index, calculated as (R+M)/2, greater than 90 and containing more than 0.05 gram of lead per gallon or more than 0.005 gram of phosphorus per gallon.

**Motor Gasoline, Finished Leaded Regular:** Motor gasoline having an antiknock index, calculated as (R+M)/2, greater than or equal to 87 and less than or equal to 90 and containing more than 0.05 gram of lead or 0.005 gram of phosphorus per gallon.

**Motor Gasoline, Finished Unleaded:** Motor gasoline containing not more than 0.05 gram of lead per gallon and not more than 0.005 gram of phosphorus per gallon. Premium and regular grades are included, depending on the octane rating. Includes unleaded gasohol. Blendstock is excluded until blending has been completed. Alcohol that is to be used in the blending of gasohol is also excluded.

**Motor Gasoline, Finished Unleaded Midgrade:** Motor gasoline having an antiknock index, calculated as (R+M)/2, greater than or equal to 88 and less than or equal to 90 and containing not more than 0.05 gram of phosphorus per gallon.

**Motor Gasoline, Finished Unleaded Premium:** Motor gasoline having an antiknock index, calculated as (R+M)/2, greater than 90 and containing not more than 0.05 gram of lead or 0.005 gram of phosphorus per gallon.

**Motor Gasoline, Finished Unleaded Regular:** Motor gasoline having an antiknock index, calculated as (R+M)/2, of 87 containing not more than 0.05 gram of lead per gallon and not more than 0.005 gram of phosphorus per gallon.

**Motor Gasoline Retail Prices:** Motor gasoline prices calculated each month by the Bureau of Labor Statistics (BLS) in conjunction with the construction of the Consumer Price Index (CPI). Those prices are collected in 85 urban areas selected to represent all urban consumers—about 80 percent of the total U.S. population. The service stations are selected initially, and on a replacement basis, in such a way that they represent the purchasing habits of the CPI population. Service stations in the current sample include those providing all types of service (i.e., full-, mini-, and self-service).

**Motor Gasoline, Total:** Includes finished leaded motor gasoline (premium and regular), finished unleaded motor gasoline (premium, midgrade, and regular), motor gasoline blending components, and gasohol.

**Natural Gas:** A mixture of hydrocarbons (principally methane) and small quantities of various nonhydrocarbons existing in the gaseous phase or in solution with crude oil in underground reservoirs.

**Natural Gas, Dry:** The marketable portion of natural gas production, which is obtained by subtracting extraction losses, including natural gas liquids removed at natural gas processing plants, from total production.

**Natural Gas Marketed Production:** Gross withdrawals of natural gas from production reservoirs, less gas used for reservoir repressuring; nonhydrocarbon gases removed in treating and processing operations; and quantities vented and flared.

**Natural Gas Plant Liquids (NGPL):** Natural gas liquids recovered from natural gas in processing plants and, in some situations, from natural gas field facilities, as well as those extracted by fractionators. Natural gas plant liquids are defined according to the published specifications of the Gas Processors Associations and the American Society for Testing and Materials as follows: ethane, propane, normal butane, isobutane, pentanes plus, and other products from natural gas processing plants (i.e., products meeting the standards for finished petroleum products produced at natural gas processing plants, such as finished motor gasoline, finished aviation gasoline, special naphthas, kerosene, distillate fuel oil, and miscellaneous products).

**Natural Gas Wellhead Price:** The wellhead price of natural gas is calculated by dividing the total reported value at the wellhead by the total quantity produced as reported by the appropriate agencies of individual producing States and the U.S. Minerals Management Service. The price includes all costs prior to shipment from the lease, including gathering and compression costs, in addition to State production, severance, and similar charges.

**Natural Gas, Wet:** Natural gas prior to the extraction of liquids and other miscellaneous products.

**Nuclear Electric Power:** Electricity generated by an electric power plant whose turbines are driven by steam generated in a reactor by heat from the fissioning of nuclear fuel.

**Nuclear Electric Power Plant:** A single-unit or multiunit facility in which heat produced in one or more reactors by the fissioning of nuclear fuel is used to drive one or more steam turbines.

**Nuclear Reactor:** An apparatus in which the nuclear fission chain can be initiated, maintained, and controlled so that energy is released at a specific rate. The reactor includes fissionable material (fuel), such as uranium or plutonium; fertile material; moderating material (unless it is a fast reactor); a heavy-walled pressure vessel; shielding to protect personnel; provision for heat removal; and control elements and instrumentation.

**Offshore:** That geographic area that lies seaward of the coastline. In general, the coastline is the line of ordinary low water along with that portion of the coast that is in direct contact with the open sea or the line marking the seaward limit of inland water.

**Oil:** See **Crude Oil (Including Lease Condensate).**

**Oil Well:** A well completed for the production of crude oil from one or more oil zones or reservoirs. Wells producing both crude oil and natural gas are classified as oil wells.

**Operable (nuclear):** A U.S. nuclear generating unit is considered operable after it completes low-power testing and is issued a full-power operating license by the Nuclear Regulatory Commission. A foreign nuclear generating unit is considered operable once it has generated electricity to the grid.

**Organization for Economic Cooperation and Development (OECD):** Current members are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States and its territories (Guam, Puerto Rico, and the Virgin Islands), and West Germany.

**Organization of Petroleum Exporting Countries (OPEC):** Countries that have organized for the

purpose of negotiating with oil companies on matters of oil production, prices, and future concession rights. Current members are Algeria, Ecuador, Gabon, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.

**Pentanes Plus:** A mixture of hydrocarbons, mostly pentanes and heavier, extracted from natural gas. Includes isopentane, natural gasoline, and plant condensate.

**Petroleum:** A generic term applied to oil and oil products in all forms, such as crude oil, lease condensate, unfinished oils, petroleum products, natural gas plant liquids, and nonhydrocarbon compounds blended into finished petroleum products.

**Petroleum Coke:** A residue that is the final product of the condensation process in cracking. The product is either marketable petroleum coke or catalyst petroleum coke.

**Petroleum Coke, Catalyst:** The carbonaceous residue that is deposited on and deactivates the catalyst used in many catalytic operations (e.g., catalytic cracking). Carbon is deposited on the catalyst, thus deactivating the catalyst. The catalyst is reactivated by burning off the carbon, which is used as a fuel in the refining process. That carbon or coke is not recoverable in a concentrated form.

**Petroleum Coke, Marketable:** Those grades of coke produced in delayed or fluid cokers that may be recovered as relatively pure carbon. Marketable petroleum coke may be sold as is or further purified by calcining.

**Petroleum Consumption:** The sum of all refined petroleum products supplied. For each refined petroleum product, the amount supplied is calculated by adding production and imports, then subtracting changes in primary stocks (net withdrawals are a plus quantity and net additions are a minus quantity) and exports.

**Petroleum Imports:** Imports of petroleum into the 50 States and the District of Columbia from foreign countries and from Puerto Rico, the Virgin Islands, and other U.S. territories and possessions. Included are imports for the Strategic Petroleum Reserve and withdrawals from bonded warehouses for onshore consumption, offshore bunker use, and military use. Excluded are receipts of foreign petroleum into bonded warehouses and into U.S. territories and U.S. Foreign Trade Zones.

**Petroleum Products:** Products obtained from the processing of crude oil (including lease condensate), natural gas, and other hydrocarbon compounds. Petroleum products include unfinished oils, liquefied petroleum gases, pentanes plus, aviation gasoline, motor gasoline, naphtha-type jet fuel, kerosene-type jet fuel, kerosene, distillate fuel oil, residual fuel oil, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt, road oil, still gas, and miscellaneous products.

**Petroleum Products Supplied:** See **Petroleum Consumption.**

**Petroleum Stocks, Primary:** For individual products, quantities that are held at refineries, in pipelines, and at bulk terminals that have a capacity of 50,000 barrels or more, or that are in transit thereto. Stocks held by product retailers and resellers, as well as tertiary stocks held at the point of consumption, are excluded. Stocks of individual products held at gas processing plants are excluded from individual product estimates but are included in other oils estimates and total.

**Photovoltaic and Solar Thermal Energy (as used at electric utilities):** Energy radiated by the sun as electromagnetic waves (electromagnetic radiation) that is converted at electric utilities into electricity by means of solar (photovoltaic) cells or concentrating (focusing) collectors.

**Propane:** A normally gaseous straight-chain hydrocarbon ($C_3H_8$). It is a colorless paraffinic gas that boils at a temperature of -43.67° F. It is extracted from natural gas or refinery gas streams. It includes all products designated in ASTM Specification D1835 and Gas Processors Association Specifications for commercial propane and HD-5 propane.

**Propylene:** An olefinic hydrocarbon ($C_3H_6$) recovered from refinery or petrochemical processes.

**Refiner Acquisition Cost of Crude Oil:** The cost of crude oil to the refiner, including transportation and fees. The composite cost is the weighted average of domestic and imported crude oil costs.

**Refinery (petroleum):** An installation that manufactures finished petroleum products from crude oil, unfinished oils, natural gas liquids, other hydrocarbons, and alcohol.

**Renewable Energy:** Energy obtained from sources that are essentially inexhaustible (unlike, for example, the fossil fuels, of which there is a finite supply). Renewable sources of energy include wood, waste, photovoltaic, and solar thermal energy.

**Reservoir Repressuring:** The injection of a pressurized fluid (such as air, gas, or water) into oil and gas reservoir formations to effect greater ultimate recovery.

**Residential Sector:** The residential sector is considered to consist of all private residences, whether occupied or vacant, owned or rented, including single-family homes, multifamily housing units, and

mobile homes. Secondary homes, such as summer homes, are also included. Institutional housing, such as school dormitories, hospitals, and military barracks generally are not included in the residential sector; they are included in the commercial sector. The SIC code used to classify an establishment as residential is 88 (Household).

**Residual Fuel Oil:** The heavier oils that remain after the distillate fuel oils and lighter hydrocarbons are distilled away in refinery operations and that conform to ASTM Specifications D396 and 975. Included are No. 5, a residual fuel oil of medium viscosity; Navy Special, for use in steam-powered vessels in government service and in shore power plants; and No. 6, which includes Bunker C fuel oil and is used for commercial and industrial heating, electricity generation, and to power ships. Imports of residual fuel oil include imported crude oil burned as fuel.

**Road Oil:** Any heavy petroleum oil, including residual asphaltic oil used as a dust palliative and surface treatment on roads and highways. It is generally produced in six grades, from 0, the most liquid, to 5, the most viscous.

**Rotary Rig:** A machine used for drilling wells that employs a rotating tube attached to a bit for boring holes through rock.

**Short Ton (coal):** A unit of weight equal to 2,000 pounds.

**SIC:** See **Standard Industrial Classification.**

**Solar Energy:** The radiant energy of the sun, which can be converted into other forms of energy, such as heat or electricity.

**Standard Industrial Classification (SIC):** A set of codes developed by the Office of Management and Budget which categorizes industries into groups with similar economic activities.

**Startup Test Phase of Nuclear Power Plant:** A nuclear power plant that has been licensed by the Nuclear Regulatory Commission to operate but is still in the initial testing phase, during which the production of electricity may not be continuous. In general, when the electric utility is satisfied with the plant's performance, it formally accepts the plant from the manufacturer and places it in commercial operation status. A request is then submitted to the appropriate utility rate commission to include the power plant in the rate base calculation.

**Steam-Electric Power Plant:** A plant in which the prime mover is a steam turbine. The steam used to drive the turbine is produced in a boiler where fossil fuels are burned.

**Strategic Petroleum Reserve (SPR):** Petroleum stocks maintained by the Federal Government for use during periods of major supply interruption.

**Subbituminous Coal:** A dull, black coal of rank intermediate between lignite and bituminous coal. It conforms to ASTM Specification D388-84 for subbituminous coal.

**Supplemental Gaseous Fuels:** Any gaseous substance that, introduced into or commingled with natural gas, increases the volume available for disposition. Such substances include, but are not limited to, propane-air, refinery gas, coke oven gas, still gas, manufactured gas, biomass gas, or air or inert gases added for Btu stabilization.

**Synthetic Natural Gas (SNG):** A manufactured product chemically similar in most respects to natural gas, resulting from the conversion or reforming of petroleum hydrocarbons. It may easily be substituted for or interchanged with pipeline quality natural gas. Also referred to as substitute natural gas.

**Transportation Sector:** Private and public vehicles that move people and commodities. Included are automobiles, trucks, buses, motorcycles, railroads and railways (including streetcars), aircraft, ships, barges, and natural gas pipelines. The SIC codes used to classify establishments as belonging to the transportation sector are 40 through 49.

**Unaccounted-for Crude Oil:** Arithmetic difference between the calculated supply and the calculated disposition of crude oil. The calculated supply is the sum of crude oil production phase imports, less changes in crude oil stocks. The calculated disposition of crude oil is the sum of crude oil input to refineries, crude oil exports, crude oil burned as fuel, and crude oil losses.

**Underground Storage:** The storage of natural gas in underground reservoirs at a different location from which it was produced.

**United States:** Unless otherwise noted, "United States" in this publication means the 50 States and the District of Columbia. U.S. exports include shipments to U.S. territories, and imports include receipts from U.S. territories.

**Vented Natural Gas:** Gas released into the air on the base site or at processing plants.

**Wellhead Price:** The value of crude oil or natural gas at the mouth of the well.

**Wind Energy (as used at electric utilities):** The kinetic energy of wind converted at electric utilities into mechanical energy by wind turbines (i.e., blades rotating from a hub) that drive generators to produce electricity for distribution.

**Wood and Waste (as used at electric utilities):** Wood energy, garbage, bagasse, sewerage gas, and other industrial, agricultural, and urban refuse used to generate electricity for distribution.

**Wood Energy:** Wood and wood products used as fuel, including round wood (cord wood), limb wood, wood chips, bark, sawdust, forest residues, charcoal, pulp waste, and spent pulping liquor.

**Working Gas:** The gas in a reservoir that is in addition to the base (cushion) gas. It may or may not be completely withdrawn during any particular withdrawal season. Conditions permitting, the total working capacity could be used more than once during any given season.

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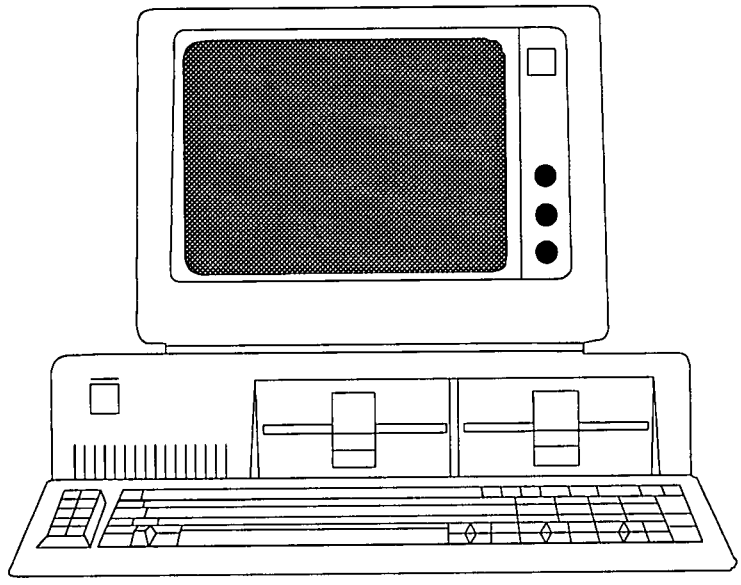

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